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## ABSTRACTS OF ADDRESSES DELIVERED BEFORE THE AMERICAN MEDICAL ASSOCIATION, ATLANTA, GA., MAY 5, 6 AND 7, 1896.

### *ADDRESS OF THE PRESIDENT, R. BEVERLY COLE, M.D., OF SAN FRANCISCO.*

AFTER a general introduction of historical character, Dr. Cole stated that the American Medical College Association, had within the past two years brought about great changes in the desired direction of higher education. It must, however, be admitted that improvement had been effected but very slowly, and that the usage of many of the schools to evade the laws established by the Association is so general that the good result is small, and the manifest reluctance of so many now within the organization to embrace the last advance, namely, the adoption of the four years' requirement, gives but little promise for the future. Just so long as the examinations for matriculation are conducted by members of the faculty of medical schools, just so long will evils continue, and so long as the professional examinations for degrees are conducted by interested parties, just so long will the ranks of the noblest profession be filled with uneducated, untrained, so-called doctors.

Relative to making examinations for life insurance companies, he said that no man qualified to make a thorough examination, such as is required by insurance companies, if he be properly imbued with the value and importance of his services, will, or can assume the responsibility attaching to his function as an examiner without an adequate return. Surely the fee of five dollars was small enough, and the offer of any less sum is simply an insult to the educated physician, and a bid for cheap, unscientific service, which can be obtained from the ranks of the unskilled and irresponsible. Let every examiner plant his foot firmly and decline employment without adequate compensation; let it be published to the world that certain companies employ incompetent men, or by paying cut fees receive cut services, and very soon they will discover their mistake and be brought to the realization that the best and most skilful services command the best prices.

Another question of grave importance and to which he thought the Association should take cognizance and suggest a remedy, was the total absence of reciprocity between the United States and foreign countries as to laws governing the right to practise. Why Americans should be required, when taking up their abode in Germany, Great Britain, and even in the territory of our first cousin, Canada, to undergo an examination preliminary to securing a license, while our portals are floodgates through which every country of the earth pours its surplus of medical men, or rather, to put it more correctly, why our country should receive with open arms, without hindrance, the excess of product of foreign schools without requiring of them the same as is required of us, he could not see, and he was distinctly of the opinion that the time had arrived when the matter should be earnestly considered and something done to arrest the strides of this rapidly growing wrong.

He had noticed with inexpressible pleasure, the action taken by the Association at its last meeting, together with the hearty support at the hands of of the State Society of Pennsylvania, so far as the advertising columns of the *Journal* are concerned. In this case the reform commenced at home, and Dr. Cole said we should carry it further and apply it to individuals.

Equally gratifying is the effort now being made asking Congress for an additional member of the cabinet, who shall be known as the Secretary of Public Health, and who shall be head of a department to be known as the Bureau of Health, which will have general charge of health matters as well as statistics. Such a department would be of incalculable utility and value, and the measure should by all means possible be vigorously pushed forward.

While the year just passed had been marked by several important discoveries of scientific value, the usual advance in the line of medicine and surgery had been made, but he feared that the tendency to push surgery to the exclusion or

neglect of medicine, was becoming glaringly conspicuous. It would seem every tyro imagines that surgery offers the quickest route to success, and that fame is to be attained only through blood; hence every case, the symptoms of which are directed to McBurney's point, was necessarily a case of appendicitis, for which the only sovereign remedy was the knife; or if it be a woman, and her suffering is referred to the ovarian region, or she has a fibroma, very small and barren of symptoms of importance, not only must she be subjected to celiotomy at once, but in nine cases out of ten, is her uterus, or uterus and ovaries, sacrificed, thus unsexing her without the slightest effort being made to spare these organs and preserve to the woman her distinguishing function. If the same practice prevailed to emasculate every man who might have a neurosis of the cord and neighboring organs, there would be fewer operations than are now done on women for no greater cause.

The mere fact that the improvements and advancements in surgical procedures make them relatively safe, should not be advanced as an argument, and he looked with suspicion upon the surgeon who might claim that as no use can be assigned to the appendix vermiformis, it should, upon the slightest provocation or excuse, be removed. Is it not time that a halt should be called, and that such cases should be assigned to those who are expert in diagnostic technic as well as surgical procedures? Can any law of either God or man be found to justify oophorectomy or hysterectomy except under the most dire conditions?

## ADDRESS ON MEDICINE,
## BY WILLIAM OSLER, M.D.,
## OF BALTIMORE, MD.

### THE STUDY OF THE FEVERS OF THE SOUTH

[BY TELEGRAPH.]

HUMANITY has but three great enemies; fever, famine, and war, of which by far the greatest, by far the most terrible, is fever. It is worthy of comment that three of the greatest benefits conferred on mankind, beside which it would be hard to name three of equal importance, have been in connection with the fevers, the introduction of cinchona, the discovery of vaccination, and the announcement of the principle of asepsis. The differentiation of special forms of the continued fevers, and particularly that of typhoid, forms one of the most interesting chapters in medicine.

It is a very gratifying sign to notice the attention which has been given of late to the subject of typhoid fever in the South. Some years ago a good many physicians resented the imputation that the disease, to any extent, prevailed in the Gulf States.

I have been in the habit for several years of reading the reports of the discussions on this subject at the New Orleans Parish Medical Society, and they had been interesting as showing a progressive development of knowledge such as comes to all of us with fuller study of any problem. Enteric fever presents no constant picture. On the contrary, scarcely any disease has a more varied symptomatology. The fever may be said to be invariable, though afebrile cases are not unknown; but in the features of onset, in the length of its course, in the presence or absence of symptoms regarded as cardinal, such as rose spots, diarrhea and splenic enlargement, typhoid fever is so uncertain that the diagnosis is often dubious.

Advances in the treatment of fevers and especially of typhoid, have not kept pace with the rapid progress in our knowledge of the etiology. Think of the misery, the tediousness, the discomfort of a typhoid case with three relapses; think of the bleeding, the blistering, the purging, from which at least our fever patients of to-day are free. Contrast with the former methods the care, the gentle nursing, the scrupulous cleanliness, the abundance of cold water to drink, and fresh air which typhoid fever patients of to-day receive. I would claim the privilege of a faddist to abuse roundly other faddists who did not swim in my puddle.

As a strong advocate of hydrotherapy, I take especial pleasure in denouncing as heretics of the worst possible stamp the advocates of the so-called antiseptic and abortive methods of treatment of typhoid fever. I would place the man who does not also give a purge, in a limbo just a little less hot, as he probably does a little less harm. Scarcely a week passes in which I do not receive a temperature chart of some case of typhoid fever which has terminated spontaneously on the twelfth or fourteenth day, as a triumphant demonstration of the value of drugs, which, from my point of view, might as well have been given *per cutem* in the tub. At present, I am, however, so wholly opposed to cold water practices that I confess to be anything but an impartial critic. The advocates in this country for the abortive and antiseptic plan of treatment must bring forward a much stronger body of evidence than has been presented before they can hope to carry conviction to the skeptical. To claim an abortive treatment of typhoid in a case in which, on the

thirteenth day of the illness and on the seventh of the treatment, a patient died of intussusception as "cured of his typhoid fever on the seventh day of treatment," when the autopsy showed "the characteristic and extensive ulceration of Peyer's patches and tumefied mesenteric glands," is to talk a language unintelligible to an educated medical man, and is nothing short of midsummer madness.

Full clinical histories should be furnished of typhoid fever cases, and any one who wishes to contribute to the subject should not be too busy, not only to make a careful, critical study of the symptoms, but to jot them down in some order so that at least they may be intelligible to others. The second point is the necessity of obtaining autopsies in fatal cases. We all appreciate how difficult this is in private practice, but in determining the nature of obscure atypical cases of fever, it is absolutely essential. There is not a hospital in the country in which the determination of the nature of an obscure case of fever is not settled by the autopsy alone. Thirdly, it is essential that observers who undertake to study this question with thoroughness should approach it with a full acquaintance with the varieties of the malarial parasites, and with an accurate knowledge of bacteriological technic.

To us, as a profession, belongs the chief glory of the century. Enormous as has been the advancement in material prosperity, and widespread as has been the diffusion of benefits from the development of the physical sciences, they cannot compare with the progress which has been made in the relief of suffering and in the prevention of disease. Our work here ranks among the most memorable achievements in the history of the race. Fever in its various forms is still with us, and the century has seen in connection with it but one discovery of the first magnitude, but it is of almost equal importance to know that the way has been opened and that the united efforts of many workers in many lands are day by day disarming this great enemy of the race.

## ADDRESS ON SURGERY,
## BY NICHOLAS SENN, M.D.,
## OF CHICAGO.

### SOME OF THE LIMITS OF THE ART OF SURGERY.

MODERN SURGERY has attained a degree of development which entitles it to the distinction of a science and an art. As a science, surgery is of recent date, having been founded and perfected during the last half of the present century. As an art it has been practised for centuries by our ancestors, with credit to themselves and benefit to the injured, the crippled, and the sick. When Boyer wrote the introduction to his classic work on surgery he expressed the conviction that surgery had reached perfection. How little did he dream of the great changes that would be wrought in the practice of his cherished profession by the progressive pathologists and surgeons of the next few generations. What a contrast between the standing of the surgeon of to-day in the community, the profession, and, from a scientific aspect, as compared with his colleagues of only a century ago!

Modern pathology and the new science of bacteriology have laid a permanent foundation for the steady and progressive advance of surgical thought and work. The inflammatory complications of wounds and the etiology of most of the chronic infective surgical diseases have been cleared up by bacteriologic investigations during the last twenty-five years, and the knowledge thus gained has enabled the surgeon to prevent, in a large measure, the former, and to treat intelligently, and with increased success, the latter. The wonderful development of operative surgery, during the same time, is one of the earliest and richest fruits reaped from the vast and fertile field sown and cultivated by bacteriologists of every civilized nation. Antiseptic and aseptic surgery have smoothed the rough and rugged pathway of the practical surgeon.

The almost universal introduction of antiseptic and aseptic precautions in the treatment of wounds in private and hospital practice has nearly eradicated the three greatest enemies of the surgeon of old, namely, hospital gangrene, erysipelas, and secondary hemorrhage, and minimized the occurrence of suppuration and its manifold immediate and remote complications.

The *furor operativus* manifested in special departments of surgery, and its obvious results, render the standing and legitimate scope of the general surgeon very uncertain and indefinite at the present time. Let the general surgeon turn to the right or to the left, advance or retreat, and he finds himself on reserved territory. As for the physician, he is expected to answer night-calls, prescribe for diarrhea and whooping-cough, watch cases of typhoid fever, measles, scarlatina, and smallpox, and should complications arise, and he does not report to the proper authority, he renders himself liable to censure. Much of this ill-applied energy in the surgical world has resulted in detri-

ment to patients and in retarding actual surgical progress. Operative surgery has been carried to extremes.

The employment of antiseptic and aseptic precautions in the treatment of intestinal and accidental wounds has greatly diminished the frequency of progressive phlegmonous inflammation and its often disastrous consequences. That such an occurrence cannot always be prevented, even by the most scrupulous care and attention to details, every surgeon of experience is willing to admit. In the most virulent forms of phlegmonous inflammation the most heroic and timely treatment, local and general, is often fruitless in averting speedy death. In the most desperate cases the surface lesion is often insignificant, the infection following the lymphatic pathways, soon reaches the general circulation resulting in death from acute sepsis before any decided gross pathologic lesions have appeared at the seat of infection or in any of the internal organs. How rapidly general infections may take place has been shown by the experiments of Schimmelbusch, who found micro-organisms in the spleen five or ten minutes after infection of a wound. Colin and Niessen demonstrated by their experimental work that amputation a few minutes after inoculation of the ears and limbs of rabbits with pure cultures of anthrax did not protect the animals against generalization of the disease. Such cases in the human being fortunately are seldom met with, but when they do occur, the art of surgery is powerless in arresting the progress of the disease. Parenchymatous injections of solutions of carbolic acid or corrosive sublimate along the course of the inflamed lymphatics, and the internal use of alcohol in heroic doses promise the most, but in the great majority of cases the extension of the infection continues and terminates speedily in death from general sepsis. In the treatment of diffuse phlegmonous processes it is now customary to make free incisions, establish free drainage, and disinfect the cavity by flushing it freely with a safe and yet efficient antiseptic solution, such as a saturated solution of acetate of aluminum, a three per cent. solution of carbolic acid, or a 1–5000 solution of corrosive sublimate and apply to the part hot compresses wrung out of the same solution.

Closely allied to phlegmonous inflammations of the soft tissues is acute suppurative osteomyelitis, as it is caused by the same kinds of microbes, and results in more or less extensive destruction of tissue. The etiology and pathology of this disease are now well understood, and upon them is based the early operative treatment, which is generally indorsed by the profession at the present time. The early removal of the osteomyelitic product by operative interference, as a rule, relieves pain promptly, limits necrosis, guards against joint complications, and reduces the danger from general sepsis. Immobilization of the affected limb, in proper positions, and the exposure of the osteomyelitic focus by the use of the chisel or gouge as soon as a positive diagnosis can be made, are the modern resources, which have succeeded in greatly reducing the mortality of this disease, as well as its immediate complications and remote consequences.

Only a few years ago, the surgeons who paid special attention to diseases of the joints were enthusiastic advocates of early resection or arthrectomy in cases of tubercular joint affections. It was believed that such radical treatment would succeed in eliminating the local affection and in preventing the extension of it to distant organs by reinfection from the peripheral focus. Statistics prove that these hopes are unfounded, and conscientious surgeons have substituted largely in place of operative treatment, conservative measures. A change in practice has taken place, largely due to the beneficial effects obtained from intra-articular and parenchymatous injections of iodoform and glycerin. Resort to this treatment has been made in hundreds of cases, with the most satisfactory results. In about one-half or two-thirds of all cases of uncomplicated joint tuberculosis, this treatment proves curative. It is of special value in the treatment of tubercular abscess in communication with a tubercular joint or bone. From one to three or four injections usually suffice in obliterating the abscess cavity.

In considering the subject of malignant tumors, it must be acknowledged that the essential cause of carcinoma and sarcoma remains to be discovered. The science of surgery must first divulge the true nature of tumors before we can expect a decided advance in their more successful treatment. The essential features of the modern treatment of malignant tumors may be summed up very briefly as follows: Operate early and thoroughly. The treatment of inoperable sarcoma by injections of the sterilized toxins of the streptococcus of erysipelas and the bacillus prodigiosus has not fulfilled our reasonable expectations.

Operative interference is absolutely indicated in fractures of the cranial vault under the following circumstances: (1) All open fractures, including gunshot and punctured fractures. (2) Depressed fractures, attended by well-defined

symptoms, caused either by the depression or intracranial complications. (3) Rupture of the middle meningeal artery, with or without fracture of the skull. The indiscriminate use of the chisel and the trephine in the hands of the inexperienced practitioner is fraught with danger, and should not be encouraged by teachers and expert surgeons. Cerebral localization and aseptic surgery have made it possible to treat a few intracranial lesions successfully by direct operative interference.

The abdominal cavity was largely *terra incognita* to the surgeon of less than half a century ago. To-day it is the favorite battle-ground of the average surgeon, and the select field of the so-called abdominal surgeon. Notwithstanding the wonderful improvements in the technic of operations upon the stomach, partial gastrectomy and pylorectomy have yielded anything but encouraging results. In nearly fifty per cent., the patients subjected to radical treatment for malignant disease of the stomach succumbed to the immediate effects of the operation. The speaker has opened the abdominal cavity for the surgical treatment of malignant disease of the stomach nineteen times, and only in one case did he find the disease limited to the organ first affected, and in this case the general health of the patient had been so much deteriorated by the obstructive pyloric carcinoma as to contraindicate a radical operation; in all of the remaining cases a pylorectomy or partial gastrectomy was out of the question, as the carcinoma of the pylorus or stomach had extended to adjacent organs, or had given rise to regional infections through the lymphatic glands sufficiently to contraindicate any attempts at radical removal of the disease.

The greatest onslaught of modern surgery has been upon the organs of generation, male and female. The future historians who will record the work of many gynecologists belonging to the present generation will have reason to express their surprise at what disasters the art of surgery has produced when plied in cases far in advance of a scientific foundation. Here and there we hear a feeble voice protesting against the indiscriminate surgery upon the organs of generation of the opposite sex, but the mutilating work continues in spite of such opposition and well-meant advice. When we arraign the gynecologists before such a representative body composed of representative medical men of this country for innumerable and inexcusable transgressions of the rules which ought to govern and control the art of surgery, we do not include the scientific, conscientious workers in that department of surgery, but our remarks apply to a class of routine operators which have recently grown to alarming dimensions not only in this, but in nearly every country which has been penetrated by the dim rays of so-called bold surgery. The new generation of doctors finds no longer satisfaction in practising their profession in some rural district. They have their eyes on large cities and have heard of enticing fees paid to specialists for insignificant operations. Why buy a horse and saddlebags when a fortune awaits them in devoting themselves to a specialty, more particularly gynecology? The recent graduate or the man who has become disgusted with country practice seeks a much employed gynecologist, follows his work for a month or two and returns to his prospective field of labor a full-fledged specialist. He is now ready to extirpate the uterus, remove ovaries and Fallopian tubes, sew imaginary lacerations of the cervix and perineum. Do you suppose that such an aspirant for gynecological fame ever examines a woman and finds her perfect? Is it not true that in nine out of ten cases he finds something to mend?

Laceration of the perineum is a favorite subject of the amateur gynecologist. The extent of laceration and the symptoms caused by it are not always carefully considered in deciding upon the propriety of an operation. The performance of an operation on the perineum in five or seven minutes still serves as an attraction for the lookers-on in many private hospitals and gynecological clinics.

The frequency with which women are being castrated is one of the most flagrant transgressions of the limits of the art of surgery. It is not unusual for one operator to exhibit five or six normal ovaries as the result of half a day's work. All kinds of excuses are made for this kind of surgery. Where is this wholesale unsexing of our female population going to end? The beginning of the end has come. The army of women minus their essential organs of generation is beginning to raise its voice against such mutilating work. The number of women who willingly sacrificed their ovaries to restore their shattered health without securing the expected relief has increased to an alarming extent. This sad experience has made the gynecologists more desperate and bold. It is difficult to say where this rage for the removal of the female sexual organs will end, or what organ will be the next battle-ground for the aggressive gynecologists. The clitoris, the vagina, the cervix uteri, the ovaries, the Fallopian tubes, the uterus and its ligaments, have success-

ively passed through a trying ordeal of operative furor. What the next fad will be is impossible to foretell.

The subject of genital surgery should not be dismissed without making a strong plea in favor of conservatism in the treatment of prostatic hypertrophy. Allusion is made to this subject because it is feared that when this operation on aged men for hypertrophy of the prostate becomes common property, and is indorsed by surgeons of high standing, it will be misapplied in the same way, probably to a lesser extent than the removal of normal ovaries. Men will be castrated for stone in the bladder, chronic cystitis and malignant disease of the bladder. It is not always easy or possible to make a positive differential diagnosis between simple hypertrophy of the prostate and some of the conditions which simulate it so closely. In doubtful cases it would be advisible to make the diagnosis sure by a suprapubic cystotomy before resorting to a mutilating operation, rather than remove the testicles and later discover an encysted stone or malignant disease of the bladder or prostate. Castration is such an easy operation that every tyro in surgery will be tempted to perform it upon willing subjects suffering from obscure affections of the bladder, complicating hypertrophy of the prostate gland. The Ramm-White operation deserves fair trial at the hands of competent surgeons, in well selected cases, but evil is apprehended in the future, not so much from the proper use as the abuse of this procedure.

## ADDRESS ON STATE MEDICINE, BY GEORGE H. ROHE, M.D., OF BALTIMORE.

### THE PURIFICATION OF WATER SUPPLIES

THE most vitally important sanitary problem confronting American municipalities at the present day is, unquestionably, the supply of pure water for drinking and other domestic purposes. The widespread prevalence of typhoid fever may be practically looked upon as a result of the pollution of the drinking water. The importance, therefore, of having the latter of a pure quality is self-evident. In 1894 twenty-five of the principal cities of the United States had an average typhoid mortality of 39.6 per one hundred thousand of their population.

The numerous epidemics in this country and abroad, which have been studied with so much care by eminent sanitarians, have demonstrated the relation of infected drinking water to typhoid fever. While cases doubtless occur in which the disease cannot be traced to the water supply, these constitute the vanishing minority. In epidemics of cholera a similar relation exists between the outbreaks and extension of the disease to an infected water supply.

Pure water, or water free from all sorts of uncleanness is demanded to-day by the "sanitary conscience" of the public. We are therefore reduced to one of two alternatives, either to prevent the access of impurities to the sources of supply, or else to resort to some method of purification of the water itself. The City of New York has recently chosen the first alternative by purchasing large tracts of land bordering upon its source of water supply. By the removal of sources of pollution from the area of land so acquired the endeavor has been made to secure a pure drinking water. But the expense has been something enormous.

In Chicago, the extraordinary epidemic of typhoid fever from 1889 to 1893, led to the extension of the intake pipe in Lake Michigan to a distance of four miles from the shore. Since then, the typhoid mortality has been reduced from 159.7 per one hundred thousand in 1891, to to 31.4 per one hundred thousand in 1894.

In most instances, the changing of the source of water supply is quite impractical. Fortunately, there is at our hand, however, a means by which a source of supply once polluted or constantly polluted, can be rendered pure, namely, by filtration.

Formerly, filtration simply meant straining out from water all gross impurities, thus changing a dirty or muddy water into a clear and limpid fluid. It did not contemplate the changing of organic compounds into inorganic compounds, or the removal from the water of minute organisms, which we have learned to recognize as the causes of specific diseases. We now know that water may be perfectly clear and limpid, and yet be extremely impure. We also know that sewage water, full of organic matter and teeming with manifoid micro-organisms of various kinds can be rendered absolutely pure by filtration.

The experiments by the Massachusetts State Board of Health, conducted at Lawrence by Mr. Hiram F. Mills and Mr. Allen Hazen, proved conclusively that water, no matter how polluted, can be rendered absolutely safe and pure by simply filtering the same through sand-filters, provided certain conditions are observed regarding the construction of the filters, the rate of filtration, etc. Comparative studies of the efficiency of sand-filters and various processes of so-called

"mechanical filtration" confirm the opinion that sand filtration gives the best results in purification, at the lowest cost of construction and maintenance.

Koch discovered that the real filtration does not take place in the sand, but that by deposit from the polluted water a layer of mud is formed on the top of the sand, and that it is this layer of mud which retains the suspended constituents of the water. In the process of filtration, the important point is, first, that a proper layer of slime should be formed and that it should not be disturbed during the process of filtration, and that when, by further continuous deposit, it becomes too thick, and therefore, too impermeable to water, it should be removed. It has also been discovered that in the gradual wearing out of the sand layer it should never be allowed to get below a certain thickness—about 30 cm.—and that a certain speed, about 100 mm. per hour, must be maintained of the movement of the water through the mud layer. Daily or tri-weekly examinations of the water by a bacteriologist determine whether the filter is working properly or not.

London has used this system of sand filtration for her drinking water for upwards of forty years. The filter-beds of Berlin cover an area of thirty acres.

The cholera epidemic of Hamburg in 1892 furnished an object lesson of great value. Hamberg and Altona both draw their water supply from the river Elbe. In Hamburg the water was furnished direct to consumers without filtration; in Altona the water had been systematically filtered for a number of years. The Hamburg supply was drawn from the river at a point where there was comparatively little pollution, but the Altona supply came from the stream after it had received the sewage of the city of Hamburg, numbering eight hundred thousand inhabitants. Moreover cholera bacteria were even discovered in the Elbe water below the outlet of the Hamburg sewers.

In Hamburg about twenty-one thousand persons were attacked with cholera, of whom more than eleven thousand died during the epidemic. In Altona on the other hand there were five hundred cases, four hundred of which were shown to have been importations from Hamburg, thus leaving only one hundred cases traceable to infection in Altona. A remarkable improvement in the prevalence of typhoid fever attended the introduction of sand filtration at Lawrence, Mass.

In sand filtration, two processes must be kept in view; one, the straining out of the bacteria, and the other, the conversion of the organic matter into inorganic compounds. These imply, that the materials of which the filter is composed shall be sufficiently fine to hold back all suspended matter, and that a sufficient supply of oxygen shall always be present to oxidize it. In most natural waters, there is a sufficiently large quantity of free oxygen present to cause the oxidizing processes to go on continually, but in extreme cases of pollution, an extra supply of oxygen is necessary. This may be supplied by aeration of the water before filtration, or by conducting the filtration intermittently.

On the whole, it is probable that sand filtration must be regarded as the most efficient method of purifying a polluted water supply; and that, when carefully and intelligently managed, it can be depended on as a perfect safeguard against infection from that source.

## THE PRESIDENT'S ADDRESS DELIVERED BEFORE THE ASSOCIATION OF AMERICAN PHYSICIANS, AT ITS ELEVENTH ANNUAL MEETING AT WASHINGTON, D. C., APRIL 30, 1896.

BY A. JACOBI, M.D.,
OF NEW YORK.

GENTLEMEN: The scrutiny of the program you have prepared for this meeting of the Association of American Physicians, yields an eloquent exposition of its scope and aims. The fellows who are offering their contributions to the discussions of these three days, have in the distant parts of the country, each by himself, and unknown to their far-away cooperators, acted the parts of different constituents of an organism. Indeed, whatever conduces to make up internal medicine, from the special biological study of a coccus to the prognosis in a particular disease, from the etiology of a morbid condition to its therapeutics, from the consideration of a local ailment to that of public hygiene, is well represented. Gathering up the apparently detached threads, I therefore find it far from difficult to express in a few words what I consider to be the relation of medicine, such as it is exhibited in this Association and on its program, to medicine as it is taught and practised, either undivided or in its specializations, and of this Association to its national sister societies.

At a time when a number of national special organizations had been in existence several years, it was founded, I take it, because the leaders felt that the natural tendency to the division of scien-

tific labor should be, not checked, but guided by a controlling hand, and that the independent position of internal medicine should be demonstrated and vouchsafed.

Since Boerhaave, aye, since Galen, specialties branched off from the original trunk of medicine. The accumulation of experience, the multiplicity of observers, the increasing depth of studies, the perfection of tools and instruments, and the limitation of the capacity of individual practitioners, at one time even the dictates of the Church have from century to century, and lastly, from decade to decade, added to the number of specialties in practice and of specializations in study. Indeed, at the present time, a medical man may do his full duty to his profession, be an expert largely quoted, the first among his peers, and a peer among the first, an authority of the first rank, without ever having paid the slightest public attention to the demands of social hygiene, or for years seen a single sick-bed. On the other hand, there are those most of whose time is spent and efforts exhausted in attending to the sick, both in hospitals and private dwellings. Their observations may be quite as correct as those of the microscopist and experimenter, but they are not so easily proven to be so. In their case it takes, as a rule, a large number of statistical data to establish facts as truths and worthy of acceptance, for, indeed, truth is not so simple as many a proverb will have it. The reason for this is manifest. The object of the microscopist is single, is one, and still mistakes are made; for explanations differ in regard to what has been seen, and corrections and refutations are numerous. That of the physician is complex, therefore more difficult. His subject is man, and usually man whose physiological functions are disturbed by a pathological process. His work is also more comprehensive, his aim higher than that of a practical specialist who claims to deal with a single organ. When we look upon modern specialties as they frequently are, not as they ought to be, practised, we have to admit that they suffer from the danger of limiting the view of the practitioner. An isolated organ is the center of his perpective, and everything not enclosed in his field of vision, which is occupied by the organ of his choice, is doomed to remain insignificant in his estimation. Moreover, the mercantile and mercenary spirit of the end of the century matures occasional eagerness for early reputation and social and financial success. The public is easily impressed by visible manipulations and manual dexterity, and unable to follow or correctly rate the results of unobtrusive and unornamental brainwork. Thus it is, that to establish himself in reputation and standing among laymen, it takes the accomplished physician as many decades as the young specialist years. On the domain of practical medicine, the specialties have gradually encroached. No cavity but has been invaded by the surgeon, no special organ ever so small but what has been appropriated by a specialist. Is it true, however, that medicine becomes more surgical or specialistic? Is it not rather to be demanded that surgery and the rest of the specialties should remain, or, more than hitherto, become medical?

It is not given to me to value scientific labor, beyond the personal happiness conveyed to the searcher for truth by the broadening of his mental horizon and by revelations never manifested before, except by the good it does to the race. *Nisi utile est quod faciamus stulta est gloria.*

The researches which have contributed most to the success of all branches of *surgical* medicine are the same that have added to our knowledge of a large number of infectious diseases and benefited both private and public hygiene. That is where the bacteriological hermit, the studious histologist, the bedside practitioner, and the public statesman join hands. That is where medicine proves itself to be the benefactor not only of the individual, but of mankind. Political economy and individual and public hygiene are equally interested in the progress of medicine. When society will have passed beyond the mire of mercenary wire-pulling and bickering, when every man will be a political being in the sense of Aristotle, with the tendencies of the statesman rather than those of the politician, when the welfare of the people and race will be the only aim of enlightened representatives, then the medical man will be either the legislator or his adviser, and medicine will take the place occupied in remote medieval times, before there were so many churches, by the Church. But to accomplish that end medicine must remain one and indivisible.

Looking over the programs of the Climatological, Pediatric, Gynecological, Neurological Associations, and the rest, you recognize subjects familiar to yourselves. Let them acknowledge their origin, and the ties are no longer severed. Surgical *science* is medicine. Its *art* only is what constitutes the specialist. The methods of surgical diagnosis are medical. The very sources of its practical success are the pharmacological, biological, and histological laboratories. The very best minds of both hemispheres were always

anxious to enforce the union of the *disjecta membra*. No science deserves its name unless enlivened by this idea. Imagine, for instance, anthropology to relinguish its throne and acknowledge the independence of its different branches. The collective studies of crania, or of hair, the peculiarities of the Esquimo tribe, the relationship of languages, they are branches of and contributions to science, not sciences. This knowledge of consanguineous unity was the cause of the formation of our triennial congress. From that point of view this Association, with its annual meetings drawing on, and combining as it does pathological anatomy, histology, bacteriology, chemistry, physics, and all the practical aids offered by the mechanic, the optician, and by all the specialties, whose number leaves nothing to be desired beyond that it might be smaller, and with its constant contact with the interest of the commonwealth, takes the place of the triennial congress. One of the wisest members, in my opinion, of this Association was once asked by me what he did in a certain case. His answer was: "Among other things, I prescribed a surgeon." One of the leading specialists of the country told me after he had inspected a volume of our transactions: "I know how to operate on an eye, and now and then I succeed in making a good brain diagnosis. After all, however, we do retail work. When I want statesmanship in the profession I look to internal medicine."

Among the constituents of scientific and practical medicine there is one which has not yet succeeded in conquering its legitimate place, viz., therapeutics. Fifty years ago in Vienna, and where its influence was paramount, the interest in man began at the autopsy. It had become, and occasionally still is customary, even with large minds, to scoff at the value of internal therapeutics. The effects of the knife, the actual cautery, the tourniquet, the local applications on the integuments are readily conceded. But the natural difficulties of directing and controlling the action of drugs on distant cell conglomerates, either fluid or solid, are often emphasized and exaggerated into alleged impossibilities. That is a mistake, for the merely empirical character of therapeutics, which, after all, has a value of its own, is to a large extent superannuated. The diagnostic methods of Laennec (with whose illustrious name that of Auenbrugger ought always to be thankfully remembered) and of Skoda, and the introduction of the thermometer by Wunderlich, enabled us to prove some of the local or general actions of medicines. The efficacy of local treatment was proven by Hebra in the treatment of scabies, in the very face of the nihilistic school of Vienna. Pravaz's invention, as ingenious as it was simple, facilitated local administrations with tangible and instantaneous effects. The separation of alkaloids, beginning with that of morphia in 1817, strychnia in 1818, caffein in 1819, added to the accuracy of effect and of observation. Experiments with drugs on animals have vastly contributed to the exactness of our medication, though it is true that every newly discovered fact is liable to be accepted or not with the protest that whatever happens *in corpore viti* need not be applicable to man. In that way we are mainly indebted to Wepfer who worked as early as 1679, to Magendie and his pupil, Claude Bernard, and to the greatest of them all, Karl Ludwig. Nor was it animals alone that were utilized to accomplish accuracy in the application of medicines. Observation of their action when they were given to the well and the sick has vastly increased our knowledge in spite of the absurd caricatures furnished by that erudite quack, Hahnemann.

Nor has chemistry and pharmacology, which was in due time separated from pharmacy, been idle. The changes undergone by medicinal agents were studied by Mitscherlich, Schmidt, Wormley, Horatio C. Wood, and Schmiedeberg, and the dependence of the effects of medicines upon their chemical structure by Richardson, Brown, and Frazer, with the final result of creating through synthesis new and powerful agents. One of the most promising observations was this, that certain bacteria are capable of immunizing animals against the action of certain poisons, either through the metabolic products of bacteria, or by the very serum alone of such immunized animals. Finally it was found that as the absence or the diseased condition of the thyroid gland caused serious disorders, so some of the latter could be corrected or cured by the administration in different ways of thyroid tissue or its extracts. These very facts, and the results of serum therapy, and the promises of organotherapy in general, which we expect to be fulfilled in the near future are most hopeful signs. We are, therefore, amply justified in believing that internal medicine will soon reap many of the fruits, thus far harvested by external medicine, from the fields of biological and bacteriological laboratory work.

This is more than hope. It is the more a certainty the more surely and frequently physiological and pathological functions are shown to be chemical. Bacteriology, advanced as it is beyond tentative beginnings and the overbearing claims of

youthfulness, does no longer pretend to cover the field of etiology. It recognizes the difference between the entity of a disease and its cause. All organic changes in the cells and protoplasm are either physical or chemical, or both. Bacteria cause local infection, usually primary, rarely metastatic in character, but never the constitutional symptoms of a disease. These are produced either by proteins or toxins, the products of the very microbic bodies, or ptomaines, the products of the cells in which the presence of microbes worked an abnormal metamorphosis. The latter, however, does not result from bacteric influence only. Chemical, mechanical, thermic changes, are apt to influence the normal vital processes, which again impress, or are impressed by, the peculiar individual disposition created by age, hereditary influence, previous illness, state of nutrition, nerve force, and the conditions of rest or exhaustion. What a wonderful and complicated chain of mutual influences and possibilities, and what subjects for study for this Association.

The normal vital processes depend on two powers, the cells and the blood.

The very structure and function of the former are acted upon or built up by the latter. Thus it appears as our master Virchow has lately pointed out, that finally we return to a species of humoral pathology, but not indeed to the crases and diatheses of old. For modern humoral pathology looks for the presence in the blood of actual agents mostly of chemical nature. Part of them has been shown to be so; in the case of others we have to rely on inferences. Still, with peptones, aceton, sugar, with acetic, lactic, oxalic, uric, and oxybutyric acids in the blood we are fairly acquainted; and the discovery of Fraenkel's thyreo-antitoxin proves to what extent the action of the organic juices is mainly, if not altogether chemical.

The interests of the practitioner and his patients, of medical science and the commonwealth, are equally served by these views when tested by practice. As an Association we have to deal with the interests of science and of the community; of the latter even more than it is willing to understand or to admit. We, however, need not be exhorted to continue our work. The misunderstood sympathy with the alleged sufferings of animals, and the agitations of the anti-vivisectionists —no matter whether merely misinformed or fanatical—must not swerve us from studying, from learning, and from serving mankind by combining our efforts for public purposes. The hygienic interests of the community are, or ought to be, in our keeping. Your Association being the scientific representative of internal medicine in America, ought to be recognized all over the Union as the scientific law-giver. What the New York Academy of Medicine is calculated to become for New York City, this Association ought to be able to be for the Union and beyond it through the scientific labors of its members. In order, however, to attain this destiny, let us not forget that medicine must be one and inseparable, now and forever.

Some of our colaborers have left us during the past year. Dr. James Edmond Reeves, who was a member since 1887, and died at Chattanooga, Tenn., on January 4th, at the age of sixty-six years, was one of those who happily blended a strictly scientific ambition, as exhibited by his "Practical Treatise on Enteric Fever," and his "Manual of Medical Microscopy for Students, Physicians, and Surgeons," also by his paper contained in Vol. V. of our Transactions, on "Some Points in the Natural History of Enteric or Typhoid Fever," with a sense of duty both as a public servant and a citizen. From his early professional years he interested himself, both as a fellow of scientific societies and as a health officer, in public hygiene. He was the author of the law creating the State Board of Health of West Virginia, and it was he who felt bound and was able to take up, single-handed, a successful fight against a "consumption cure." At a time when the practice of medicine is frequently degenerating into a trade, and the number of quacks, and especially consumption quacks, is swelled even from among the ranks of men armed with medical diplomas and possessed of official positions, his undoubted courage and moral strength are bright examples that should not be forgotten. What I said of the combination of special medical interests, and the instincts and aims of a good citizen, is also due to the memory of Dr. James West Roosevelt, who died in New York on April 11th. He was, though a member of this Association since 1889, one of the youngest of us, being but thirty-eight years old when he died. More extensive obituaries will refer to his various monographical contributions to medical literature. In Vol. VI. of our Transactions there is a paper of his on the "Frequency of the Localization of Phthisis Pulmonalis in the Upper Lobes." As he was versatile, enthusiastic, and unselfish, his participation in the fight against misrule in New York was active indeed. It will always be gratefully remembered. He was deeply interested in the efforts of the New York Academy of Medicine to abolish the pollution of the Croton water shed, and to secure national control of quarantine.

As death is busy causing losses, it is our responsibility to see that the ranks of the Association remain closed. There being, however, but few vacancies in our roll of one hundred, but few candidates will be presented to you for election. You recollect that in last year's meeting you declined to increase our membership, which is now limited to one hundred. The same proposition will be made again, to be voted upon next year. The class of men anxious to join, and capable of doing scientific work, is certainly growing. Now it is true that the Association has been justly conservative, but conservatism is not narrow. As it was the pride of every one of us to be one of the hundred, it will, when we conclude to facilitate new admissions, be our pride and happiness to know that no increase of membership will ever include all the Americans willing and able to render actual scientific services to universal medicine.

## ORIGINAL ARTICLES.

### *SOME PRACTICAL REASONS FOR EARLY OPERATION IN APPENDICITIS.*[1]

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IN an an article on the surgical treatment of Chronic Catarrhal Appendicitis, read before the Ohio State Medical Society at its forty-sixth annual meeting, held at Sandusky in June, 1891, I referred to the practical uses of the vermiform appendix, and in closing, I drew the following conclusions, based on my limited experience at that time on the results of the surgical treatment of appendicitis: (1) That the appendix vermiformis is a useless rudiment. (2) That chronic catarrhal appendicitis is always dangerous, and liable to be followed at any time by hazardous and even fatal results. (3) That medical treatment is of little or no permanent value in this class of cases. (4) That the only safe and reliable method of treating chronic catarrhal appendicitis, and the only treatment that will promise permanent relief to your patient is prompt amputation of the appendix.

Since writing that paper, a great deal of literature has appeared, a great many theories have been advanced, and I am certain that the profession of to-day is much better versed in the diagnosis and treatment of diseases of the appendix than it was five years ago.

[1] Read before the Tri-State Medical Society, Chicago, Ill., April 8, 1896.

When it first began to dawn upon the profession that there was such a thing as appendicitis, and that peritonitis was usually a symptom rather than a disease, the differentiation between appendicitis and other diseases of the intestinal tract seemed to be the chief stumbling block. Medical men, more than now, objected to the knife and advocated the use of medicinal remedies, with hot applications combined with a large smattering of expectant treatment. It is true, not a few of their cases, then as now, got well, but while their expectant treatment was followed with success in a few cases, a large number terminated fatally, which doubtless could have been saved by an early operation. Very much to the discredit of the medical profession, appendicitis was taken up by the lay press, and became, to a certain extent, a fad. Medical men arrayed themselves against operations, while many of the surgeons favored them. These matters were discussed pro and con, until the average citizen was about as familiar with appendicitis as many members of the medical profession. Operators, however, disagreed in reference to operating; not a few advocated early operation; others advocated operating immediately regardless of the stage of the disease; others advocated waiting until pus formed, and still others advised never to operate in the first attack. With all this division of opinion among operators, saying nothing of those who did not pretend to operate, with the numerous deaths which followed, whether cases were operated on or not, is it any wonder that the laity became alarmed and confused.

I shall not enter into the discussion of the anatomy or pathology, or even the diagnosis of appendicitis, but shall proceed at once to the consideration of some practical reasons for early operation:

1. In discussing this subject I wish the gentlemen of this Association to bear in mind that the appendix vermiformis is a useless appendage that is simply a rudiment in man of what is a valuable portion of the intestinal tract in some of the lower animals.

2. I wish to put myself on record that even a healthy appendix is a dangerous portion of the intestinal tract, and liable at any time to make trouble for its possessor.

3. I wish you also to bear in mind that the simple removal of a healthy appendix is not a dangerous operation, and is not followed by unfavorable results, if properly performed.

In my experience it is delay that has increased my mortality record in these operations. In those

cases where consent was obtained for an early operation, I have been enabled, by the removal of the appendix, to save many lives; but when, for any reason, delay has occurred until perforation, suppuration, and septic infection have taken place, I have either lost the patient, or he has been obliged to lie for weeks and suffer from a multitude of complications, not the result of the operation, but plainly the result of delay. In this connection I wish to offer as evidence of the importance of an early operation the following case:

Samuel Wilson, age forty-one, weight 225; a merchant, resident of Columbus, O., was taken ill with pain in the right iliac region, July 1, 1894, at which time he called his family physician, Dr. J. U. Barnhill, who found him exceedingly tender over McBurney's point, with temperature 100°. His diagnosis was "suspected appendicitis." July 2d, his temperature had risen to 101°, and there was severe localized pain in the right inguinal region, with constipation. The next day his temperature was 101°; local tenderness more marked. Diagnosis of appendicitis was made, and he was advised to go to the hospital for operation. On the 4th his temperature remained 101°, pulse 98; pain intense, and distinct tenderness over the region of the appendix. On the 5th of July his temperature was found to be 102°, pulse 110, and pain less severe. At this time I was called in consultation, confirmed the diagnosis, and advised operation as soon as possible. On the 7th there was slight delirium; temperature 102½°, pulse 120. On the 8th his temperature suddenly rose from 102° in the morning to 104° in the afternoon; tenderness more marked, with decided evidence of an abscess. He was admitted to the Protestant Hospital and prepared for an operation the next day, July 9th.

Assisted by Drs. Barnhill and Means, I operated, opening a large abscess in the right inguinal region, which involved the appendix, as well as the head of the cecum. Not less than a quart of pus was evacuated. The parts were thoroughly flushed with 1–3000 bichlorid. We found that the appendix had sloughed off, and that circumscribed necrosis had taken place in the walls of the cecum about three inches above its head, causing an opening at least an inch in diameter, which allowed the fecal matter to discharge into the abscess cavity. This was all thoroughly washed out with peroxid of hydrogen, followed with bichlorid. The opening in the bowel was closed with a Lembert suture and the abscess cavity packed with iodoform gauze. The cavity was thoroughly cleansed from three to four times a day, but on the 11th of July, the second day after the operation, a fecal opening was discovered. The abscess cavity closed rapidly by granulation, leaving a fecal fistula.

On August 7th we made our first attempt to close this opening, through which the mucous membrane of the colon freely protruded. After having thoroughly cleansed it with antiseptics, we proceeded to denude the mucous membrane for at least an inch and a half in width, extending this process completely around the fistulous opening. The denuded surfaces were then carefully sutured to each other and the integument closed with silk sutures. This operation, however, proved to be a failure, and in a few days the sutures sloughed out and the patient was left in the same uncomfortable and undesirable condition.

A second attempt was made at closing this fistula on August 24th, at which time we made an incision completely around the fistulous opening, carrying our dissection just to the verge of cutting the peritoneum. We then inverted that portion of the bowel which protruded through the abdominal walls, bringing the surface of the outer coat of the intestine together, in the closing of which we used four rows of sutures. The wound was then washed out antiseptically and the integument closed with silkworm-gut. This held for several days, but eventually gave way, and another fistulous opening was the result. Various other operations, with a view of closing it, were resorted to, but all failed to accomplish the desired end.

Unfortunately, the patient, in spite of all we could do for him, continued to vomit from a week to ten days after each operation, thus putting extra tension on the sutures. This, I believe, to a large extent caused infection, and the re-establishment of the fistula. To avoid this we made two trials with cocain anesthesia, with better results, so far as emesis was concerned, and hence better results from the operation. After these operations the wound gradually closed up and the patient's general health was improved, and December 21, 1894, he was discharged from the hospital apparently well.

Soon after his discharge a slight amount of fecal matter made its appearance along the line of the fistulous track, which was now largely composed of cicatricial tissue. This, however, did not annoy the patient a great deal, and after having gone through such a serious ordeal as I have briefly described, he was willing to put up with some inconvenience, provided it did not increase. September 7, 1895, he became decidedly worse; a complete artificial anus formed, and for over a month he did not have a natural stool, the fecal matter all discharging from the opening in the bowel which was so large that my hand could readily be passed into the ascending colon, and the ileo-cecal valve distinctly felt below, together with the curve at the commencement of the transverse colon above. Water injected by a fountain syringe into the rectum would freely escape through the artificial anus without any pain or disturbance to the patient.

Mr. Wilson was again admitted to the Protestant Hospital September 15, 1895, at which time the protrusion of the bowel was about the size of

my two fists. After carefully studying his case, I decided that all the failures heretofore were due to fecal infection together with continued vomiting after the operation, and I then proceeded to devise a plan with a view of overcoming this obstacle. I finally decided to perform an ileo-cholostomy with the Senn bone plates, making the artificial opening into the ascending colon just below the curvature of the transverse colon, with a view of changing the course of the fecal current, and switching off the lower portion of the ileum together with the cecum up to the point at which the ileum was joined to the ascending colon.

This operation was performed October 17, 1895. Before operating the colon was cleansed as thoroughly as possible, the head of the cecum was packed with pellets of absorbent cotton, and the artificial anus covered completely with antiseptic gauze, so as to exclude, as far as possible, infection. The usual abdominal opening was made just below the curvature between the ascending and transverse colon. An opening about an inch and a half long was then made lengthwise of the colon, which admitted one of the Senn bone plates. Having fastened the plate to its proper place, the opening was carefully guarded with a sponge by an assistant, so as to prevent any fecal infection. I next brought up the cecal end of the ileum, and made an opening in that at a point to correspond with the opening already made in the colon, introduced the bone plate, and completed the operation *secundum artem*, including a running suture along the plates so as to doubly secure them.

The patient got along nicely after this operation without any difficulty worth mentioning. It was very interesting to pass the finger into the colon and watch the process of absorption take place in the bone plates, which on the sixth day came away, a mere film about the thickness of a piece of tissue paper.

The final operation for the closure of the artificial anus was made December 16, 1895. The patient was carefully prepared for this operation by a restricted diet for four or five days previous, during which time we allowed him to drink all the water he could possibly indulge in, for a dual purpose. First, to relieve the hunger due to the restricted diet and, second, to obviate thirst after the operation and prevent vomiting. The morning of the operation, the colon was cleansed by a thorough douching, and every arrangement made for an aseptic operation. Before commencing the operation, I was interested to know the size of the opening where the artificial union of the two intestines had been made, and consequently passed my hand up to the opening and found that I could pass both the index and middle fingers, without any effort on my part, or pain on the part of the patient. This convinced me that the opening between the two intestines was sufficiently large. I first packed the colon with small pellets of cotton, for the purpose of preventing fecal infection and to act as a guide after I had entered the abdominal cavity. I then brought the integumentary edge of the artificial anus, together with a continuous suture of catgut, in order to prevent any possible escape of fecal matter during the operation proper. Assisted by Drs. Means and Cole, I then proceeded to enter the abdominal cavity by making an incision parallel to the rectus muscle, the entire length of the artificial anus, along its inner margin. Having entered the peritoneal cavity, it was very easy to distinguish the ascending colon from the ileum on account of it having been filled with cotton. I could readily pass my finger down to the lower end of the ileum and locate the ileo-cecal valve below, while it was easy to locate the artificial attachment of the ileum to the colon above. Having positively determined my anatomical bearings, I then dissected completely around the artificial anus until I had freed it from its lumbar attachment, when I commenced to invert the entire mass, first with a row of kangaroo-tendon suture, between the catgut suture, above-mentioned, and the bowel, and continued until four rows of these sutures were inserted, and the bowel so completely inverted that there was a depression in the wound instead of a protrusion. You will observe we had made (including the continued suture) five rows of sutures, four of which were made of kangaroo-tendon. The wound was then thoroughly washed with sterilized water and closed with heavy silk suture, covered with iodoform gauze and sealed with iodoform collodion. From this time on the recovery of the patient was without interest. In a few days after the operation, the cotton with which we had packed the head of the cecum, passed per rectum, and shortly after that, natural stools were established. When discharged from the hospital, January 24, 1896, he was having two natural stools a day without any trouble. At this time he is in good health and weighs 218 pounds.

During the past winter I was called early in the morning to a case in which an acute attack of appendicitis had set in, the night before, in a young man about twenty years of age. My advice was an immediate operation; but for various reasons it was delayed. At four o'clock, the same afternoon, there was evidence of perforation of the appendix, with profound shock, followed by septic peritonitis, and for a time it seemed as though he would die from collapse. Having rallied sufficiently, he was admitted to the Protestant Hospital, but operative interference was still delayed until it was evident that nothing but an operation could possibly save his life. I operated under a protest in my own mind and found the abdominal cavity filled with pus, with numerous points of necrosis extending along the intestinal tract and a general septic condition, so marked that it was evident that death would ensue in a few hours, which it did.

Another case was admitted a few days later, in which there had been a question of diagnosis, and

from the incipiency of the attack until the operation, several days had elapsed. As soon as the diagnosis was satisfactory an operation was made, but septic infection had done its work. Numerous pockets of pus had formed, necrosis of a portion of the intestine had taken place, and again the patient was relieved from his suffering by the hand of death.

Gentlemen, these are serious matters for the surgeon, and when I come before you advocating early operation for appendicitis, I do it because I believe it is the only safe and reliable plan of treatment. I believe it offers, to the patient first and to the reputation of the surgeon second, more than any other line of treatment that has yet been tried. Why wait for a second attack? Why wait to see whether perforation will take place and pus form? It is true, perforation may not take place and pus may not form, or, if it does form, it may rupture into the head of the cecum and escape, and your patient get well; but is that an argument in favor of non-interference, when so many of our patients who wait for something to turn up will die! It is true that many of these cases will have recurrent attacks, some as high as half a dozen or more, and still live through each of them, but is that any argument why we should allow a patient to remain in a condition which endangers repeated attacks of sickness, any one of which may snatch him from time to eternity without a moment's warning?

Allow me to offer as testimony in favor of an early operation the case of a young gentleman who was just about to graduate in medicine, and who, at seven o'clock in the evening, was taken with pain in the right iliac region. Before nine o'clock next morning appendicitis was diagnosed. An immediate operation was made by my colleague, Dr. Baldwin, assisted by Dr. Means and myself. An inflamed appendix was found, just ready to burst and covered with wandering leucocytes, which only needed the presence of pus microbes to convert them into poisonous pus. The appendix contained several enteroliths, which were doubtless the cause of the inflammation, and which at any moment might have caused pressure necrosis, followed by perforation and septic infection. But what was the result? This young man got well without a bad symptom, and is now at his home enjoying life, in contradistinction to another professional gentleman, who, a few days later, in the city of Columbus, was taken with this treacherous disease, was operated by an eminent surgeon of our city three days later, and died of septic peritonitis on the seventh day following the attack.

Gentlemen, these are only a few of the many cases which we cannot ignore. We, as professional gentlemen, must respect the experience we earn in the field of practice. We must set aside theory and be governed by facts, and when we are called to the bedside of a case of appendicitis, ask ourselves the question, what course shall we pursue that will afford this patient the greatest protection?

Allow me to give just a few quotations from the the experience of others in the treatment of appendicitis. In an able article by Dr. Meyer of New York, on "When Shall we Operate for Appendicitis?"[1] he says:

"It is a great misfortune, I believe, for those who were stricken by appendicitis within late years that the 'early operation,' originally advised by Dr. McBurney, had to give place, by virtue of medical evolution, to the so-called 'timely operation.'

"Generally speaking, no doubt it is more scientific in the treatment of patients to individualize; thus also in appendicitis, it is more scientific not to find the indication for the removal of the appendix given as soon as the diagnosis of its inflammation has been made. And I for my part am convinced that the medical profession will continue to carefully weigh the pros and cons with reference to operation in each case of appendicitis. Yet at the same time I am firmly convinced that if we could give one hundred equally serious or equally light cases of appendicitis to two equally trained surgeons, the one who believes in and always does an early operation will save a greater percentage of lives than the other, who only takes the knife in hand during the attack when he considers it to be time."

In an exhaustive article, entitled, "Should the Appendix be Removed in Every Case of Appendicular Abcess?" by J. Wm. White, M. D. of Philadelphia,[2] he says:

"I believe, for example, that few, if any, would dissent from the following rules: Immediate operation is indicated whenever the onset of a case of appendicitis is marked by both suddenness and severity; whenever, during even a mild attack, the symptoms at the end of forty-eight hours are unrelieved or are growing worse; whenever in cases seen later a firm, slow-forming, well-defined mass is to be felt in the right iliac fossa: whenever at any time a sudden increase in the acutenesss of the pain and a rapid diffusion of tenderness occur; whenever there is good reason for believing the appendix infection to be tubercular in character; whenever attacks of any type have been numerous, or are increasing in either number or gravity, or have unfitted the patient for work or activity, or have caused local symptoms which are permanent and persistent, or have at any time put the patient's life in great danger."

I might continue to multiply the evidence in favor of early operation, but I do not deem it necessary, for I doubt whether there is a surgeon within the hearing of my voice who cannot corroborate, by cases that have come under his own observation, the statements I have made to-day. I have lived through the era when a case of perforated appendicitis was diagnosed peritonitis

[1] *Medical Record*, February 29, 1896.
[2] *University Medical Magazine*, March, 1896.

with a grave prognosis. I have watched the surgeon give relief to these cases by the use of the knife. I have seen the pendulum swing to a point where it was advised to operate on all cases; I have seen it return to the opposite extremity, in which some of the best surgeons have advocated delay, and during all this time I have had personal experience in each of the different methods advocated, but, after having tried them all I have returned to my former faith, and unless better evidence shall be furnished in the future than in the past I shall continue to advocate early operation in appendicitis.

## CHANCRE OF THE TONSIL AND TONGUE, WITH REPORT OF FOUR CASES.

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BEFORE reporting the following cases I wish to say a few words in regard to the diagnosis of primary syphilis of the mouth and tonsils. Some recent experiences lead me to believe that the profession generally greatly overestimates its difficulty, and that many are inclined to take the throat surgeons' diagnosis of chancre of this region with a liberal allowance of salt, and to consider such diagnosis a little better than a bold guess. While chancres of this region differ in some respects from the cutaneous or muco-cutaneous genital chancre and lack some of its characteristics—still, they present to the careful observer an appearance, and clinical history sufficiently distinctive to warrant the diagnosis of primary syphilis, or at least a stay of proceedings until the appearance of additional evidence in the shape of secondary manifestations.

Taking into consideration the fact that all ulcerative lesions of the mucous membrane of the mouth and pharynx are almost certainly malignant, tubercular, or syphilitic, we find a diagnosis can be arrived at by exclusion. As far as the tonsil itself is concerned we may go still farther and say that an ulceration beginning in the tonsil means either carcinoma or syphilis. Carcinoma will be excluded by the fact that the pain, the enlargement of the tonsil and the glandular involvement, all precede the ulcerative process by two or three months. Then again the ulceration of carcinoma is, in itself, characteristic in that the ulcerated area is elevated and its edges overhang the surrounding mucous membrane, and is surrounded by a bright red areola.

The greatest difficulty in the diagnosis of chancre of this region lies in its differentiation from the ulcerations of the secondary and tertiary stages of syphilis. Chancres of the tonsil present the ordinary characteristics of primary lesions in general except that they involve a larger surface, and that the induration, as a rule, is not so well marked. The ulcers are sluggish and covered with a grayish-white exudate. They are of varying depths and have sloping edges. The involvement of the cervical and submaxillary glands is marked, constant, and characteristic. This unilateral grandular enlargement I consider the most important and distinctive point in the differential diagnosis.

The superficial ulcerations of secondary syphilis are excluded by the fact that they are always bilateral and more or less symmetrical—the glandular involvement is slight and, of course, also bilateral.

The tertiary lesions may be single or multiple. The ulcer is crater-like, deeply excavated with shelving edges; the glands are but little, if at all enlarged, and are not sensitive to pressure. By a little tact and skill in questioning and examining the patient, enough evidence can usually be obtained to either exclude or establish the history of infection by the genital route.

Some months ago I made the following report to the Louisville Clinical Society.[1]

CASE I.—On February 14th, Dr. A. said he had experienced some pain on swallowing, and had a slight elevation of temperature for the past three weeks. On examination I found the left tonsil considerably enlarged. A little anterior to the center of the tonsil was a deep, oval-shaped ulcer, about three-quarters of an inch in length, the long diameter being from above downward; the anterior margin of the ulcer involved that part of the tonsil covered by the anterior pillar of the fauces. The free margin of this anterior pillar was also involved in the ulcerative process. This ulcerated margin was from one-half to three-quarters of an inch in length; the ulcer, both on the tonsil and the anterior pillar of the fauces, was covered by a grayish-white membrane or exudate. The entire soft palate and uvula were very much congested, but not edematous. The deep, cervical glands were much enlarged, producing quite a perceptible external deformity.

The patient was a robust man of thirty-two years. I was satisfied that the ulceration was syphilitic, and from the general appearance of the throat, the clean-cut appearance of the anterior pillar, the ulceration of the tonsil, the absence of edema of the palate and uvula, the marked enlargement of the cervical glands, I felt almost sure the lesion was primary. I requested him to remove his clothing, when I found that over his

[1] *Journal Cutaneous and Genito-urinary Diseases*, October, 1895.

chest and back his body was the seat of a papular eruption—the typical and unmistakable papular syphilide. The diagnosis was a complete surprise to the patient, who, by the way, is a married man. He could think of no possible exposure, and said that, so far as he knew, he had not a single syphilitic among his clientele, which is composed almost wholly of a rural population. I think his statement is correct as far as he knew, as he is an honorable gentleman.

On my advice, he sought the opinion of a number of throat specialists, as well as the genito-urinary surgeons. At his next visit he told me they had all concurred in my diagnosis, and he accordingly began with antisyphilitic treatment.

I wish to supplement this report by adding two cases of chancre of the tonsil and one of the tongue.

CASE II.—On September 4th, J. H., aged twenty-five, came into my clinic at the Kentucky School of Medicine, stating that he had a sore mouth. On examination, I found three or four abrasions of the lips and mouth that looked like the superficial ulceration of the second stage of syphilis. The young man denied having any sore about his genital, and a careful examination showed the truth of his assertion. Making a careful examination of the throat, I found a deep, circular ulcer of right tonsil. The ulcer was situated at the extreme upper part of the tonsil, and almost hidden by the anterior pillar of the palate, and was covered with a grayish-white deposit. The induration could be easily made out by palpation. The cervical glands were greatly enlarged on the right side, and exceedingly painful. He said the glands had been enlarged for three or four weeks. The man was living with a prostitute, who was under treatment at the same clinic for mucous patches of throat and mouth. The diagnosis of chancre of the tonsil was made at the first examination. The patient left the clinic and passed into the hands of a physician in private practice, from whom I learn that he developed a typical secondary eruption, leaving no doubt as to the diagnosis.

CASE III.—On December 10, 1895, I saw in consultation, Mrs. S., aged sixty-three. She had an ulcer on the right tonsil of six weeks' duration. The ulcer was about the size of a dime, slightly excavated, rather irregular in its outline, and covered with a grayish deposit. She complained of pain on deglutition and pain in the right ear. The tonsil was pushed well out toward the median line, and was considerably larger than we would expect in a person of this age; the hypertrophy was more apparent than real, from the fact that it was forced out of its bed and pushed into the fauces by the enlarged cervical glands. The swelling of these glands was sufficient to produce quite a perceptible external deformity, and was painful and sensitive. The diagnosis of chancre of the tonsil was made, and the patient put upon palliatives and placebos to await developments. The ulceration afterward extended to the anterior pillar of the palate and was exceedingly obstinate and tedious; its healing was not complete until the end of the fourth week. Two weeks after the healing of the ulcer of the tonsil, and twelve weeks from the time of its inception, the belated secondary manifestation made its appearance in the palms of the hands, then on the neck and face, and later she developed the typical secondary lesions of the mouth and throat.

CASE IV.—A lawyer, aged thirty years, was referred to me by a dermatologist for an opinion in regard to a throat affection. On examination, I found the apex of each tonsil covered by a pseudo-membranous mucous patch, the lesions being symmetrical. He said three months prior to the time he came to consult me he noticed a small ulcer on the end of his tongue on the dorsal surface of the tip a little to the left of median line. It was rather painful, but the principal inconvenience was from a feeling of soreness or stiffness of the muscles at the root of the tongue and left side of the neck. As the ulcer persisted for five or six weeks, he became uneasy, lest the trouble might be specific or malignant, and went to a neighboring city for medical advice. He was seen by three different physicians, all of whom assured him it was not specific, but was probably due to some hepatic or alimentary disorder. They prescribed Carlsbad water for the correction of his supposed disorder, and he returned to his home. At the time of my examination, the ulcer of the tongue had completely healed, and its site was marked by a smooth glistening spot, entirely devoid of papillæ. With the exception of some suspicious-looking spots on the palmar surface of the hands, the lesion of the tonsil was the only manifestation of secondary syphilis. But these were sufficiently characteristic to warrant the diagnosis of syphilis. A few days later, several syphilides made their appearance on the face and neck. He also developed mucous patches around the anus

Chancres of the tongue are less common than of the tonsils, as shown by the following statistics:

Bulkley, in his recent work, "Syphilis in the Innocent," in discussing the location of the primary lesion, says that extra-genital chancres "form possibly ten per cent. of the whole."

The same author has tabulated the location of 9058 recorded cases of extra-genital chancres; of these there occurred on the lips, 1810; on the breast and nipple, 1148; buccal cavity, 734; fingers and hand, 462; eyelids and conjunctiva, 372; tonsils, 307; throat, 264; tongue, 157; chin, 146; cheek, 145; trunk, 100; nose, 95; arms, 87; peri-genital, 77; legs and thigh, 73; forearm, 59; neck, 47; gums, 42; forehead and temples, 37; ears, 27; vaccination, 1863; cupping and pleb-

otomy, 745; circumcision, 179; tattooing, 82. It will be seen from this table that three and a half per cent. of all extra-genital chancres occur on the tonsil.

Then we must take into consideration the probability that a large proportion of the 734 recorded as occurring in the buccal cavity, and the 264 in the throat were, in fact, chancres of the tonsil.

I think it probable that next to the lips the tonsil is the most frequent seat of extra-genital chancre, and that possibly ten per cent. of all extra-genital chancres are tonsillar. The mucous membrane of the palate and faucial pillars, presenting as it does a smooth, dense tissue, covered with squamous epithelium, offers little chance of infection. Hence it is not unreasonable to suppose that the syphilitic virus passes over this part of the alimentary tract, and finds in the open crypts of the tonsils a field most admirably fitted for its protection and growth. In most instances the infection takes place in a tonsil already hypertrophied, which seems to afford a favorable condition for the development of the disease. The early development of the secondary eruption appears to be rather characteristic of the tonsillar chancre. This is probably due to the large size of the initial sore and to the fact that the tonsil is so intimately connected with the lymphatic system, the eruption making its appearance in from two to four weeks. In my last case the eruption was delayed until the twelfth week. The eruption is, in most cases, papular in character, still further confirming the rapid absorption, as the appearance of the papular syphilide is usually delayed until the the third or fourth month.

The earlier writers on diseases of the throat dismiss the subject of the method of infection with the bare statement that "chancres of the tonsil are due to bestial practices"—a statement that later investigation has shown to be incorrect and unjust. While it is unfortunately true that a small proportion are undoubtedly contracted in this way, by far the larger proportion are traceable to other causes, and most of them have been innocently acquired. Among the many causes alleged in the cases reported may be mentioned kissing, pipes, cigars, glass-blowers instruments, musical instruments, drinking vessels, forks, spoons, feeding bottles, of which transmission by kissing seems to be the most frequent. In only one of my four cases was it possible to trace the source of infection. In looking up the question of extra-genital chancre I have been more than ever impressed with the great injustice done the profession, as well as the public, by the common custom of teachers and text-books considering syphilis as exclusively and essentially a venereal disease, forgetting or ignoring the fact that it is a contagious disease due to the entrance of a specific virus into the system; that it is venereal only in the sense that illicit sexual relations afford the most favorable conditions as well as the most frequent opportunity for its propagation. This undue attention to the venereal aspect of the disease, or, more properly speaking, the want of attention to its non-venereal aspect, has done untold harm by causing many an unfortunate but entirely innocent patient to feel himself degraded and disgraced, knowing as he does that the occurrence of syphilis is almost invariably associated with some loathsome sexual disorders, both by the the laity and the medical profession, To add to his humiliation, he knows that his statements in regard to the trouble to his family, intimate friends, and even his physician, are at best taken with a large degree of allowance. The failure on the part of the physician to appreciate the fact that syphilis may be transmitted by many other means than by improper sexual relations causes many cases to go unrecognized, as in the one reported, which had been seen by two physicians prior to the time the patient came to this city. neither of whom seem to have suspected the cause of the trouble. A similar lesion on the genitals, with the enlarged glands in the groin instead of neck, would doubtless have been diagnosticated by either of them without hesitation.

## CLINICAL LECTURE.

### *OSTEO-SARCOMA OF SCAPULA, FRACTURED CLAVICLE, DOUBLE HARE-LIP.*[1]

BY ROSWELL PARK, A.M., M.D;
OF BUFFALO, N. Y.,
PROFESSOR OF SURGERY, UNIVERSITY OF BUFFALO.

CASE I.—This first patient is one on whom you saw me operate ten days ago, removing the left scapula on account of an osteo-sarcoma. You can see plainly the T-shaped scar of operation, which has, however, healed by first intention without suppuration. I will pick out the silkworm-gut sutures that were inserted to hold the deeper tissues in apposition; the superficial catgut sutures are already absorbed, except a few ends that project from the skin and that may be dislodged without trouble. Nothing further in the way of a formal dressing will be required. The patient can already move the arm quite freely, though extension of the humerus is not yet possible. With further restoration of the muscles, and with practice, he will gain a better control over the extremity

[1] Delivered at Buffalo Hospital.

so that the loss of the shoulder blade will not cripple him so much as might be expected.

CASE II.—This boy has a broken clavicle, which was set at the Fitch Hospital a week ago. He came here several days later. The result is a good one, there being a very little overlapping of the fragments. There is a projecting subcutaneous spicule of bone that has alarmed the patient somewhat, but we have reassured him that it will be absorbed in the process of repair. I am particularly glad to have the opportunity to show you this case at the present time, as it was only yesterday that I described the proper treatment of such fractures to the senior class, in the didactic course. The indication in fractures of the clavicle is to pull the shoulder upward, outward and backward. If the backward pull is sufficient, the curved surface of the thoracic wall will inevitably direct the shoulder outward. I have described to you a mild method of treatment, which, nevertheless, suffices for some cases, and which consists in keeping the patient flat on the back, with a pillow between the shoulders, so that the weight of the arm and shoulder tends to overcome any over-riding of the fragments of the bone. The present case has been dressed with the posterior figure-of-eight bandage. Measuring with my eye, the distance from the spine to each acromion, I can distinguish no difference on the two sides, hence the overlapping must be slight indeed.

I want to show you to-day the Moore dressing, which takes advantage of the peculiar decussation of the fibers of the pectoralis major, those arising highest on the clavicle passing to the lowest point on the humerus, and *vice versa*. The principal deformity that we have to anticipate in fractures of the clavicle is the pulling upward of the inner fragment by the contraction of the sterno-cleido-mastoid. Now, by pulling backward and outward on the humerus, the pectoralis major is put on the stretch and the action of the sterno-cleido-mastoid is opposed and the deformity prevented. It is not enough, when there is a tendency to upward displacement, to put the humerus comfortably at the side of the chest. A decided backward and outward pull is necessary to counteract the muscular action from above, and if we also raise the outer fragment of the clavicle by raising the shoulder and holding it in this elevated position, all the indications are met. Dr. Moore's double figure-of-eight dressing can be extemporized from a sheet, or shawl, or even a blanket, so that it is practically always at hand, however far away you may be from ordinary medical and surgical supplies. The bandage should be about six or eight inches broad, or a little narrower for a young person, and at least two yards long. I first apply the middle of the bandage under the elbow, then take a turn with each half around the humerus, the posterior part in front, the anterior part behind it, while, if necessary, an assistant holds the arm in the position of upward, outward, and backward strain which I have described. Even so much of the dressing exerts a beneficial action in diminishing deformity. You will notice that I carefully avoid passing the bandage over the site of fracture, as the pressure between the cloth and the jagged ends of bone might, very easily cause ulceration. In order to hold the shoulder in position, a second turn is necessary about the neck or opposite shoulder. If I pass the bandage around the neck, I not only fail to draw the shoulder backward, but the patient is rendered uncomfortable by the choking. Hence the bandage should be passed behind the neck and around the opposite shoulder, as originally pointed out by Dr. Moore. Simply to add to the patient's comfort, a pad of cotton should be placed in the opposite axilla. As a matter of illustration I have rather overdone the stretching of the bandage, and I will relax it a little before fastening it in the back. Still, it must be remembered that any dressing will stretch a little so that it should be put on a little tighter than you mean to leave it finally. Flannel is not a suitable material for such a dressing as it is so elastic that it always yields after it has been on a few hours. Again, it is better to use old cotton cloth, or at least that which has been washed and ironed, than the unbleached cotton as it comes from the factory. Few persons realize how much new cotton will yield. The tricksters on the stage, who allow themselves to be bound with strips of cloth, appreciate the difference and manage to extricate themselves from bonds that seem absolutely secure, simply by using new cloth that will stretch. Following the turns of the bandage you will see that it is not strictly a double figure of eight, but three half-loops of the figure, a figure-of-eight and a half. The dressing needs to be supplemented by a sling for the hand and forearm, and perhaps, by passing a broad roller bandage around the trunk, so as to hold the arm in position of absolute quiet. This second roller does not include the arm, but passes through the loop between the elbow and the ascending spica turn. I hear somebody thinking if he is not actually asking whether this is a comfortable dressing? I cannot say that it is; but in fact I know of no fracture dressing that is thoroughly comfortable. I will reapply the dressing on the opposite arm, so that those of you on the other side of the amphitheater may see exactly how it is done.

In some cases of fractured clavicle, where there is little or no tendency to displacement, it is enough simply to hold the arm quiet. We may make, for example, a triangular sling supporting the forearm, hand, and elbow, with the ends tied behind the shoulders. This dressing, which is a modification of the Mayor scarf, will suffice in a small proportion of cases. In my own work, I use either the Moore dressing or Sayre's adhesive strips which fulfill the same indications. Simply on account of the inconvenience of removing the plaster, I will illustrate the adhesive strip dressing by applying pieces of roller bandage. The strips are about three inches wide and a yard long. The first one is passed around the upper end of the humerus, and is then pulled backward and toward the opposite side of the body, and is pressed against the back and side, where it adheres. The forearm is now flexed and a strip is run along the forearm, turning upward at the elbow, following the line of the humerus, and then crossing the back to the sound shoulder, and thence again down the hand and forearm, the two ends overlapping. This dressing, like the Moore's, or any other, may be applied so as to be utterly worthless, or it may be made

snug so as to hold the parts in the proper position. When the second strip is applied the shoulder must be elevated as far as possible.

While we are waiting for the next patient to be anesthetized, I wish to show you the dressing for fracture of the jaw. A broad bandage, about four inches wide and two feet long, is slit up the middle from each end nearly to the center, so as to make a chin support with four tails. To make a solid support for the chin, a piece of sole leather may be soaked and rendered pliable, then fitted accurately to the normal contour of the chin. But I prefer to take a little canton flannel or lint, sop it in a cream of plaster-of-Paris, and mold a splint which will set in a few moments to any shape desired. This is padded and bound to the chin by the four-tailed bandage, whose lower tails are brought up and tied over the vertex, while the upper ones are brought around the neck below the occiput. While this is the essential dressing I like to reenforce it and provide against its slipping, by applying a starch bandage over all.

CASE III.—I have shown you this winter several cases of hare-lip, including one or two in which there was not only a complete defect of the lip, but a failure of development of bone. To-day I show you a baby in which the intermaxillary bone, meeting with no opposition to its growth, has developed extensively, throwing forward the middle portion of the lip, which the Germans call the philtrum, and producing the appearance of a snout. Six or seven children of the same parents have shown no deformity. The child is brought in, not only with complete permission for the use of surgical measures, but with the plain expression of the desire—though not so crudely worded—that the baby be sent home either cured of this terrible disfigurement or in a box. This probosis must be forced backward to the level with the other parts of the lip, and then the defect on each side of the intermaxillary portion must be closed. The child is only four months old and is unable to withstand any protracted operation or severe hemorrhage. I shall, therefore, perform the operation in two sittings, contenting myself to-day with restoring the philtrum to its normal level. The first general indication for operation is plainly to remove a V-shaped piece of the septum and allow this restoration to take place, thus reducing the anterior deformity. I must be careful, however, not to sacrifice the intermaxillary portion of the alveolar arch, since it contains the rudiments of at least two incisor teeth, and their loss would be a serious matter. Neither do I wish to sacrifice the philtrum, or the middle of the lip, to which the lateral portions of the lip are to be hereafter fitted. I shall, therefore, remove part of the septum, well back from the lip, and the intermaxillary projection. On account of the vascularity of the parts, it is necessary to sponge freely and to quickly check the bleeding from the divided septum. Now, after taking out this V-shaped piece of bone, I can press the proboscis back where I want it. The nose will be somewhat flat, but in relieving such deformities as these, it is no part of the contract to fit a person for a "beauty show." I will apply the Pacquelin cautery, both to check hemorrhage and to guard against infection, for the mouth cannot be kept thoroughly aseptic and the charred surface will be less liable to absorb toxic matters than the fresh bleeding wound. After the child leaves the table, one of the nurses will hold a sponge firmly against the roof of the mouth, at the site of the operation, for half an hour or more, so as to prevent any oozing. Three or four times a day, the nose and mouth will be sprayed with a hydrogen peroxid solution. After ten days or two weeks it is probable that we can get union of all three parts of the lip by the usual method of suture.

## MEDICAL PROGRESS.

***Active and Passive Immunity to Cholera, Typhoid Fever, and Allied Diseases.***—As a result of investigations covering a period of a year and a half, conducted in conjunction with Durham of London, GRUBER of Vienna (*Münchener medicinische Wochenschrift*, 1896, No. 9, p. 206) has found that a high degree of long-continuing immunity may be conferred upon guinea-pigs by the intraperitoneal injection of cultures of cholera bacilli, of typhoid bacilli, and of the bacilli coli communes rendered innocuous by chloroform, or by being heated to 140°. The immunity thus conferred relates to infection and not intoxication. The destruction of the bacteria in actively immunized animals, as well as in those protected by means of the serum of immune animals, is attributable to the activity of the bodily fluids, the polynuclear phagocytes playing only a secondary rôle. The blood and fluids of immune animals contain anti-bodies, which act within the bodies of actively and passively immune persons in the same way as they act outside. In passively immune persons no reactive transformation of the anti-bodies takes place. These anti-bodies have nothing directly to do with the destruction of the bacteria, which takes place as a result of the action of the alexins always present in the bodily fluids. The essential action of the anti-bodies consists in causing the bodies of the bacteria to undergo swelling, as manifested by stickiness. For this reason the anti-bodies may be designated glabrificins. As a result of the swelling of the bacteria the alexins can gain entrance to their bodies, and thus cause their destruction. In this process the glabrificins are used up, so that the effect depends upon the amount of immunizing fluid used. Active and passive immunity are essentially alike, depending upon the presence of glabrificins in the bodily fluids. Glabrificins have been found in animals thirteen months after the last immunization. Each bacterium has its own specific glabrificin, although the action of this is not absolutely but only relatively specific. The glabrificins are certainly derivatives of the body of the bacteria, but are only produced by transformation in the body of an immunized animal, probably through the action of the macrophages.

***Successful Ligature of a Non-Traumatic Aneurism of the Vertebral Artery.***—HUFSCHMID (*Archiv für klinische Chirurgie*, 1896, B. lii, H. 1, p. 23) has reported the case of a man, fifty-eight years old, without a history of syphilis, who, while at stool, with the head resting in the hands and the elbows upon the thighs, suffered rather vio-

lent flexion of the head upon the neck by the slipping of the left elbow. He at once felt a lancinating pain in the left side of the neck, and at the end of a week noticed in the same situation a swelling about the size of a hazelnut, quite free from pain. Without inflammatory manifestations the swelling increased to the size of a hen's egg in the course of four weeks. There existed, beside, general arterio-sclerosis. From the time of the accident there had been difficulty in swallowing, and at first also frequent nausea. The tumor, which was included between the junction of the lower and middle thirds of the left sterno-cleido-mastoid muscle—by which it was covered—and the angle of the jaw, was distinctly pulsatile and compressible. Its surface was smooth and pressure induced nausea. Over the tumor crossed a vessel of the size of the carotid, compression of which obliterated the temporal pulse. Compression of the common carotid lower down controlled the pulsation in the larger vessel overlying the tumor, but not that of the latter itself. In the further progress of the case it was observed that the left pupil was smaller than the right, and that the former did not react to light and in accommodation as well as the latter; but no noteworthy differences in the ophthalmoscopic conditions of the two eyes could be made out. The knee-jerks were enfeebled, but there were no other signs of locomotor ataxia. A diagnosis of aneurism of the vertebral artery was made, and operative relief undertaken. An incision, not quite three inches long, was made from the level of the larynx, at first along the posterior margin of the sterno-mastoid muscle and thence at a distance of a finger's breadth, to the supraclavicular fossa. To freely expose the lower pole of the aneurism and the beginning of the vertebral artery the clavicular portion of the sterno-mastoid was divided a little more than an inch above the clavicle. A ligature was applied on either side of the aneurism, the divided sterno-mastoid united with catgut, and the wound, except at its lower angle,—where a strip of iodoform gauze protruded,—closed with silver and silk. After the lapse of more than a year the tumor was replaced by a small, hard mass, free from pulsation, which occasioned no trouble. The left pupil was smaller than the right. Soon afterward the patient died suddenly in an apoplectic attack, but no autopsy could be secured.

***Sterilization of Catgut.***—KOFÉND (*Wiener klinische Wochenschrift*, 1896, No. 11, p. 188) details the method of sterilizing catgut employed in Gussenbauer's Clinic at Vienna. The crude strands are scrubbed with the aid of green soap and placed, for the removal of the fat, in ether, which is renewed until the fluid remains clear. They are then washed in absolute alcohol until all air-bubbles and all water have disappeared. Next the rolls, placed between layers of gauze, are exposed for two or three hours in a hot-air sterilizer at a temperature between 130° and 140° C. They are now immersed for a day or two in a one-tenth per cent. aqueous solution of mercuric chlorid, and finally preserved in a 1–1000 solution of mercuric chlorid containing 50 parts of glycerin.

***Sudden Death from Occlusion of the Coronary Arteries.***—OESTREICH (*Deutsche medicinische Wochenschrift*, 1896, No. 10, p. 148) has reported the case of a military officer, thirty-two years old, who, without previous illness, was seized on arising from bed on the day following his wedding with unconsciousness, speedily followed by intense cyanosis and death. There was no history of rheumatism, syphilis, alcoholic excess, chronic nicotin poisoning, or other possible cause of heart disease. Upon *post-mortem* examination the myocardium was friable and presented fragmentation of its muscular fibers. Just above the right aortic valve was a thrombus, about the size of a cherry-pit, attached by a delicate pedicle to the wall of the aorta, and which was so situated as to cover the orifice of the right coronary artery. This vessel was partially filled with liquid blood; its walls were thin and delicate, in places marked by yellowish spots, but free from calcareous deposits. The left coronary artery also was occluded by a thrombus about one-third of an inch long; beyond, it contained a small amount of liquid blood; its walls were thin and presented isolated yellowish spots.

## THERAPEUTIC NOTES.

***In the Treatment of Hemoptysis,*** SCARPA (*Semaine Médicale*, 1896, No. 12) recommends the administration thrice daily of from twenty to fifty drops of a combination of equal parts of fluid extract and tincture of hydrastis canadensis. One may begin with the smaller dose and, should it fail to control the bleeding, increase by ten drops at a time to the larger. The determined dose is continued for several days after the cessation of the hemorrhage. When the hemorrhage is associated with, and aggravated by obstinate cough, from gr. ⅓ to gr. ½ of codein, or from gr. ⅙ to gr. ⅓ of morphin hydrochlorate, may be added to each dose. It is always essential that both preparations be perfectly fresh.

***The Treatment of Multiple Papillomata of the Larynx.***—As the result of an extended experience, NAVRATIL (*Berliner klinische Wochenschrift*, 1896, No. 10, p. 202) pursues the following plan in the treatment of multiple papillomata of the larynx: In all instances, intra-laryngeal removal is to be practised if possible. In children, when symptoms of laryngeal stenosis becomes urgent, prompt tracheotomy is performed, followed by intra-laryngeal curetting of the affected areas; in case of recurrence, the curetting is repeated, but through the opening in the trachea, until there is no further return. In the case of adults, if intra-laryngeal measures have proved unsuccessful, laryngo-fissure is practised, and all of the new formation carefully removed.

***For Epilepsy.***—

Take of

| | |
|---|---|
| Antipyrin, . . . . | 1 dram. |
| Ammonium bromid . . . | 3½ drams. |
| Strontium bromid, . . . | 1 dram. |
| Solution of potassium arsenite, . | 40 minims. |
| Extract of solanum carolinense . | 10½ drams. |
| Water, to make . . . | 6 fl. ounces. |

Mix.

Dose: A dessertspoonful or more twice daily.

—*Gaz. hebd. de Méd. et de Chir.*, 1896, No. 19.

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SATURDAY, MAY 9, 1896.


## THE ASSOCIATION OF AMERICAN PHYSICIANS—OUR PROFESSIONAL "IMMORTALS."

THERE are few more interesting and industrious bodies meeting in this "association month" than that which has just adjourned at Washington. It was composed solely of those who have proved their devotion to scientific medicine, gathered from every part of the land, and presided over by one of the most impressive and inspiring figures in American medicine. The proceedings were marked by a dignified simplicity, an intellectual directness and vigor, and an utter absence of parliamentary or personal tactics of any sort, such as conspired to make the beholder proud of his profession. The session was a most intructive one to the profession at large, not so much from the intrinsic interest and importance of the subjects discussed, for the program was at first sight a distinctly disappointing one, but from the facts developed during their consideration and the point of view from which they were almost unconsciously approached.

In the first place the general drift of its work distinctly indicated that the study of the bacteria alone, as the sole or even chief factor in disease, has reached its high-water mark, if indeed the tide has not already begun to ebb. Although nearly half the program was occupied by papers upon bacteriologic studies, in only two of these was the germ itself made the chief point of interest, and its discovery—and naming—a sufficient excuse for the communications. In all the other papers the central and controlling ideas distinctly and overwhelmingly related to the resistance of the tissues to attack, the effect of soil upon virulence, the possibility of modification of even specific forms by environment, as was especially illustrated in the most valuable papers of Drs. Flexner, Bolton, and Theobald Smith, reported in another column.

The advance in medicine, which we owe to this enthusiastic study of the bacteria for their own sake, is of simply incalculable extent and value, and the resultant discoveries will always remain a monument and a model of thoroughness, conscientiousness, and devotion in research, forming one of our highest claims to the proud title of "scientific" medicine. Doubtless the great bulk of the profession will hail with cordial satisfaction the prospect that the brilliant and tireless powers of our laboratory-workers are beginning to be turned toward the physiological aspects and factors of the great problem of disease. To speak figuratively, the bacteriologic foot of bacterio-pathology has made a long stride forward, and the time has come for its physiologic fellow-foot to follow.

Much still remains to be done from the purely bacterial standpoint; in spite of the magnificent feats already suggested by the names, Metchnikoff, Hankin, and Cattani, we cannot but feel that we are barely upon the threshold of the great problems of immunity, of susceptility, of resistance. It is not improbable that we shall find that the fixed and floating cells of our bodies are to the fiercest bacilli as a Greek phalanx to a horde of Parthians, and that our tissues normally secrete antitoxins, which are as deadly to hostile bacteria as the proteid of the rattlesnake and the morphin of the poppy are to the enemies of their species.

## GENITO-URINARY DISEASES. — RECENT ADVANCE IN THE KNOWLEDGE OF BACTERIURIA.

WITHIN the past ten years, so much has been added to our knowledge of the etiological relation of micro-organisms to various conditions of the urine, to inflammations of the genito-urinary tract, and as causative factors in urinary infection or poisoning, that it may be said that a new epoch has been inaugurated. A vast number of contributions have appeared, many of which are valuable, many only suggestive, others being simply cumulative evidence, while some possess only an ephemeral interest. Such, however, is the importance of this accumulated mass of knowledge that its critical analysis and succinct portrayal will be of benefit to the physician, as well as to the gynecologist and surgeon.

There is a very prevalent opinion that the urine of individuals not suffering from any disease or presenting any symptoms is always free from microbic admixture when in the bladder. It is now well known that this fluid may, in passing through the urethra, carry with it some or many of the microbes which are the constant, and usually harmless, denizens of that canal. Recent observations, however, show very clearly that the urine, when still in the bladder, may contain many micro-organisms, some of which, under (to them) favorable circumstances, may become pathogenic, and produce more or less severe illness. The published cases of bacteriuria, as it is termed, are as yet not numerous, and their teaching will not admit of succinct didactic description, nor warrant any systematic deductions or generalizations, but they are very suggestive, and open up a line of investigation which, with further critical study, will throw much light on many ephemeral and severe morbid states, the origin of which now, very frequently, escapes recognition, even by intelligent and painstaking physicians. The most important article on this subject is that of Krogius (*Sur la Bacteriurie, Annales des Organ. Gén.-Urin.*, March, 1894), which is based on the study of eight cases, in which the urine was examined microscopically, and from specimens aseptically obtained cultures were made. A study of these cases, of which three were men and five were women, shows that the ages of the patients varied between twenty-eight and sixty-four years, and that in the men there had been antecedent urethral trouble, which had been presumably cured, and had not been followed by any functional or organic affection of the urethra or bladder. In the histories of the females, it was found that some had had antecedent pelvic affections, and had been operated upon; others had borne children, while others still had been catheterized. In some of these cases, without known exciting cause, and without any bladder symptoms, the urine, which always was acid, became fetid, more or less opaque, and loaded with bacteria. In one case only there was moderately increased frequency of micturition. A noticeable feature in some of the cases was a condition of ill-health, of which the chief symptoms were attacks of chills and fever and emaciation. In the case of one man, the health was in no way impaired. It is significant that in the urine of all of these cases the bacterium coli commune was found in large quantities by culture, and that local treatment by nitrate of silver instillations caused the micro-organism to disappear, and that then the general condition of the patient either improved or became normal.

The cases of Krogius are important by reason of the careful bacteriological studies which were expended on them, while the observations and cases of Roberts, Ross, Doyen, Enriquez, Schottelius, Reinhold, and Stenbeck, who have written on this subject, do not carry with them much scientific weight, being useful and, in a measure, suggestive as preliminary communications concerning an, as yet, little understood pathological condition. Krogius remarks of his cases that they are not ordinary instances of urinary infection, and that they present entirely different features from those observed in cystitis. There is one point concerning these cases not brought out by Krogius, which has struck me forcibly, and that is that in some of them there had been antecedent lesions of the urethra, which seemed to have gotten well. Now, in these cases the urine in the bladder later on contained the bacterium coli commune, and the following questions suggest themselves: Did these micro-organisms lurk in the then presumably healthy urethra or bladder after the cessation of the inflammation?

or, was a morbid focus left, in which they remained in a latent and inoffensive state? In some cases the suspicion is warranted that the microbes were carried into the bladder in the act of catheterization. As to the local symptomatology of bacteriuria, most of the cases thus far observed show that there is no evidence of bladder trouble, and the opacity of the urine and its bad odor were in several the only disquieting features. In two cases, there was evidence of mild vesiclar irritation. Severe systemic reaction was only observed in a few cases, and was entirely absent in the majority, and it promptly ceased when local medication was instituted. It is remarkable to observe how, in some cases, the bacterium coli commune was found in the urine in enormous quantities, and yet there was no disarrangement of the health, while in a few there was evidence of what we may suppose was more or less severe urinary poisoning. It is impossible in these cases to say why cystitis was not produced by the virulent microbe so constantly found. This immunity was probably due to the integrity of the bladder tissues. It is to be noted that in five cases bacteriuria became more pronounced when the urine became mildly albuminous, and the question suggests itself, was the fluid then more favorable to microbic growth than it had been before? The occurrence of systemic symptoms during the existence of bacteriuria is at present difficult of explanation, and the question presents itself, can these microbes or their toxines pass through mucous membranes in appearance healthy? This is still another question for the future to decide.

In two cases (Krogius and Stenbeck), at the autopsy the bladder tissues to the eye seemed normal. It will require microscopical study to establish the anatomo-pathological conditions of bacteriuria.

Bacterial urine has a cloudy, even an opaque, appearance, and if it is shaken up, an undulatory or eddying motion may be seen, as if it contained some impalpable powder. Its odor is described as stale, and it may be so penetrating that it pervades the whole room.

The cases thus far considered may be classed under the provisional title of essential bacteriuria. In addition, it is well to remember that in the course of all acute, and perhaps chronic, infectious diseases, there may be a secondary bacteriuria. Then, again, we may recall to mind the fact that Ultzmann, who was one of the first to write on this subject, states that he has found bacteria in the urine of persons who live in marshy, malarial, and unhealthy regions, in those living in a bad atmosphere, and who stay for long hours in dissecting rooms and morgues. Perhaps in these cases the microbes are eliminated through the kidneys, and, as a result, the system is spared. The foregoing considerations show very clearly that we are not yet even on the threshold of the knowledge of bacteriuria, and that much and many-sided study and observation and many years will be required before the subject can be said to stand upon a scientific basis.

ROBERT W. TAYLOR, M.D.

## ECHOES AND NEWS.

THE Medical Department of the British Army intends to send a complete apparatus for skiagraphy with the Nile expedition. This is to be especially adapted to field use and easy transportation.

OWING to a high-handed usurpation of power by the Government of South Australia, in the management of the Adelaide General Hospital, the entire medical staff has been caused to resign. In so doing they receive the undivided sympathy of the profession, both in Australia and in England, and the Colonial Government will find it difficult to import respectable medical men to fill the vacancies thus created, a course which has been threatened.

AT the last meeting of the New York County Medical Association, the Committee on the Relations of Physicians and Hospitals, Dr. George T. Harrison, chairman, made an extended report, of which the following is an extract:

"We have held many sessions, have listened to much testimony, and have found many witnesses, all agreeing that a plan of making nominations of attendants in the public hospitals has been adopted. This plan bars out the profession at large, and delivers all clinical material over to the control of the colleges, ostensibly for the benefit of the students, but really tending to the construction of a monopoly, which prevents any opportunity for the development and higher education of that large and able body of consultants who are not identified with the teaching faculties, thus making consultation fees professional perquisites. . . . Finally, from evidence submitted, it does seem to us as if there had been a successful attempt to construct a 'charmed circle,' entrance to which should be granted to very few, and then only by personal pull with the faculties, quite irrespective of scientific attainments. In other words, our matured opinion is that the so-called 'reorganization' was merely a conspiracy

to control the whole medical patronage of New York and County."

The report was adopted by the association.

PROFESSOR T. R. FRASER, of the University of Edinburgh, reported his scientific investigation of serpent venom to the Royal Institution of Great Britain, in a lecture on March 20th. He has been able, by gradually increasing administrations of the poison, to immunize rabbits until they could receive, without injurious effects, fifty times the minimum fatal dose, and during five or six months they safely received enough of the venom to kill 370 animals of the same size and species. In his experiments Professor Fraser chiefly used venom obtained from the cobra of India, although that from several African, Australian, and American reptiles was also employed with similar results. The blood serum of the immune animals was found to be antidotal when used, and to this serum the name "Antivenene" has been given. Another curious observation was that when the antivenene, or even the cobra venom itself was introduced into the stomach, a sufficient amount of the antidotal substance either found its way into or developed within in the blood currents to protect the animal against one and a half times the lethal dose injected subcutaneously.

DR. JAMES P. PARKER of St. Louis, editor and proprietor of the *Annals of Ophthalmology and Otology*, died recently at forty-two years of age.

THE official annual report of the State Commission in Lunacy for New York shows that on October 1, 1895, there were 20,216 inmates of insane asylums within the State. Of these more than 9000 were in the institutions of New York and Kings counties. The increase of patients in all the asylums had amounted to 1131, during the year then completed.

IT is reported by cable to the lay press that Dr. Playfair has withdrawn the appeal from the recent decision of the now famous suit, and that efforts are being made for a final settlement. He has offered Mrs. Kitson $45,000, which she refused; but consented to accept $42,500 and the settlement by Dr. Playfair of all costs, the latter amounting to about $10,000.

ON the 14th of April the French Academy of Medicine awarded the St. Paul prize of $5000, jointly to Messrs. Roux and Behring for their discovery of the diphtheria antitoxin.

A WOMAN, residing near Mayfield, Ky., recently gave birth to five children at one accouchement. Four of the infants weighed four and a quarter each, and the other five pounds. All are in good condition and give fair promise of living.

ONE of the metropolitan papers has been devoting attention to the microscopic examination of the street dirt found adhering to the dress-skirt of a lady after an afternoon's shopping in New York. It reports to have obtained from one skirt, besides innumerable innocuous and unclassified organisms, the germs of fever, influenza, anthrax, and diphtheria. This means of transferring virulent matter from the streets to the house is, without doubt, a frequent one, and very naturally suggests two very important sanitary reforms, to-wit: cleaner thoroughfares and shorter skirts. The sense of supreme security which the new woman feels in this particular must be regarded as some compensation for her more or less complete self-denial of the ordinary female garments.

COLUMBUS HOSPITAL, a new charitable institution, located on East Twentieth street, New York City, was opened last week. It was formerly a part of the Post-Graduate School and Hospital, and is conducted by the Sisters of the Sacred Heart. Its capacity is limited to one hundred beds. Upon the rôle of its medical staff are some of the most talented physicians and surgeons of New York.

A CYCLING club for doctors is being organized in Brooklyn, N. Y. The movement originated among the students at the Long Island Hospital Medical College, but has now included a large number of the busy practitioners.

A NOVEL tour for fashionable American physicians is proposed. Its promoters limit the party to one hundred, who will be selected from graduates of American universities, irrespective of particular schools of practice. These are placed under the direction of Dr. Gowing Middleton of Paris, and will visit in turn all the principal watering places and spas of Europe, thus acquainting themselves with the comparative value for the benefit of their future patients. The party is expected to leave New York City early in July and return in September.

BY private letters from Central America, a most frightful epidemic of measles and mumps is reported to be raging in Costa Rica. More than ten thousand children are estimated to have died from these maladies during a period of three weeks. All official reports are vigorously suppressed, for commercial reasons.

THE following not improbable story has found its way into the columns of the lay press: "Alfred Tennyson was once greatly humiliated by an eminent Scotch surgeon and professor in the Edinburgh University, who was entirely devoted to and wrapped up in his profession. Tennyson had occasion to go to him at one time to consult him in regard to some affection of the lungs. Years afterward, he returned on the same errand. On being announced, he was annoyed to find that the professor had no recollection of his name or face. He mentioned the fact of his former visit, but still the professor seemed not to know who he was. But when the professor had put his ear to the poet's chest and listened to the sound that the old ailment had made chronic, he at once exclaimed: 'Ah, I know you now! I remember you by your lung!' And Tennyson was the poet-laureate."

SIR WILLIAM PRIESTLEY, Professor of Obstetrics at Kings College, and grandnephew of Dr. Joseph Priestley, the discoverer of oxygen, is the Unionist candidate for

Parliament from the Universities of Edinburgh and St. Andrew's.

ARRANGEMENTS have been made for two new courses in the second year at the College of Physicians and Surgeons of New York. One is in bacteriology, by Dr. T. M. Cheesman, and the other is in nervous histology, by Dr. Van Giesen.

THE *Virginia Medical Monthly*, so ably conducted by Dr. Landon B. Edwards for almost a quarter of a century, has been changed in name and frequency of publication to a semi-monthly.

THE June number of the *Buffalo Medical Journal* will be exclusively the product of medical women. Every detail will be placed in their hands, and it is needless to say that their best efforts will be in evidence when the next issue of this reliable periodical greets its readers.

DR. SUTER of Herkimer, N. Y., has proven by experiment that the heat developed by bullets during their passage is not sufficient to render them aseptic, as is generally stated. He found, at least, that the bacillus of anthrax would survive the ordeal, and infers that it is not safe to consider bullets sterile of the other germs.

RECENT investigations quoted in the current number of *Science* establish the fact that the essential poison of *rhus toxicodendron* can be nothing but an oil. Hence water will not remove the poison from the surface, but alcohol will, if applied freely.

A SERIAL known as the *Archives of Clinical Skiagraphy* is soon to appear in London, edited by Dr. Sidney Rowland. The first plate will be the osseous system of a child. Others will follow, showing obscure injuries of the bones entering into the formation of the knee-joint. The first issue will contain six plates.

THE Royal College of Surgeons, England, has awarded the Jackson prize to Dr. A. A. Kanthack for an essay upon tetanus, and the Walker prize to Dr. H. J. Stiles, for the best work on cancer.

## SOCIETY PROCEEDINGS.

### AMERICAN MEDICAL ASSOCIATION.

*Forty-seventh Annual Meeting, held in Atlanta, Ga., May 5, 6, 7, and 8, 1896.*

(By Telegraph to THE MEDICAL NEWS.)

#### GENERAL SESSION.

#### FIRST DAY, MAY 5TH.

The meeting was called to order at 10.30 o'clock A.M., by the president, R. BEVERLY COLE, M.D., of California.

Prayer was offered by the REV. DR. MCDONALD, after which addresses of welcome were delivered by DR. FRANK M. RIDLEY and HON. JOHN TEMPLE GRAVES.

Announcements were then made by the chairman of the committee of arrangements, after which PRESIDENT COLE delivered his address. (See page 505.)

#### SECTION ON SURGERY.

#### FIRST DAY—MAY 5TH.

The Chairman, DR. C. A. WHEATON of St. Paul, in making the annual address, reviewed at some length the history of this section of the association, and mentioned the names of many men who have been prominent in its work in years gone by. He deplored the fact that many of these men too often absent themselves from these meetings, as it deprived the section of their counsel and assistance, which is so absolutely essential to its success. Among other leaders in surgery years ago, he mentioned Sir William Jenner, Morton, Wells, and Duncan. He stated that he hoped all present would add to the laurels of the American profession, and amalgamate and strengthen this organization. In his opinion, there was not a successful specialist in any branch to-day who was not, in a large measure, dependent upon general medicine for his following and success, and therefore he was obligated to attend these gatherings, to participate in its labors, and reap its justly-earned benefits. In conclusion, Dr. Wheaton said: "If a man is of stout heart, a good campaigner, and has a large income, he may be able to attend all the other association meetings, but to this one he should pledge a special fealty, because of its national character, its cosmopolitan personality, which makes it so interdependent, and, finally, because the character of work done by this section reflects, in a large degree, the quality of the whole."

DR. CARL BECK read a paper on

#### SUBPHRENIC ABSCESS IN ITS RELATION TO PYOTHORAX.

He stated that of five cases of subphrenic abscess, which he had observed, only twice was he able to make a correct diagnosis before operation. The fact that subphrenic abscess is very often confounded with pyothorax is well known, and such errors impress one gravely with the necessity of widening his limited diagnostic knowledge upon the subject. In referring to the treatment the author stated: "The history is the most important guide in differentiation. In subphrenic abscess there is generally a history of a previous abdominal disturbance. There is no history of cough and expectoration as in pyothorax. The heart is little, if at all, displaced, and there is no ectasy of the thorax or of the intercostal spaces. In the lungs vesicular breathing is found below the clavicle, the pectoral fremitus is also clearly perceptible. There is a well marked limit to the region of vesicular breathing below which the expiration murmur is replaced by amphoric sounds. Deep inspiration pushes the boundary line of the vesicular breathing much further down into areas in which formerly no respiratory murmur could be perceived. This would indicate a well-marked separation between the lungs and the abscess cavity, the boundary line of the lungs protruding toward the abscess cavity during deep inspiration. It is sometimes impossible to distinguish an encysted pyothorax from a subphrenic abscess. The pathognomonic signs of such effusions urged by Leyden were absence of cough and expectoration, slight displacement of the heart

and rapid change of note if the patient is rapidly turned. According to my observations, however, pleuritic effusion, particularly pyothorax, sometimes occurs without these symptoms." Dr. Beck discussed at some length the method of treating subphrenic abscess, and stated that the same aseptic precautions should be observed in this as in any other operation.

"If," said the author, "the first trial of the exploratory needle result negatively, the needle should be reintroduced several times into different portions, as the cavity may either be of small extent, may contain a cheesy accumulation, or may be divided into several minor cavities by adhesions. In the first event a cavity may be missed altogether by the exploratory needle, and in the second, the needle being introduced into the solid cheesy mass, it can draw no pus. After each negative result, a wire should be pushed through the needle, which must not be of too small a caliber. Thus some pus, which had remained adherent to the inner surface of the needle, will become attached to the wire. Occasionally it will be useful to fill the syringe with sterile water after the operation and force the water through the needle into a clean dish. In case cheesy masses are present, small particles are sometimes drawn into the caliber of the needle which cannot be seen with the naked eye, but which by being mixed with the sterile water, can be recognized under the microscope. In case the microscope does not give sufficient information, resort should be had to cultures of the fluid. T. Brown, in a case of subphrenic abscess, which he took for pyothorax until after operation, found cultures of the bacillus coli communis in the aspirated pus. He very properly emphasizes that, when pus from this region yields on culture, a mixed or pure growth of baccillus coli communis, there is a strong probability that the point of suppuration is situated below the diaphragm. The treatment of subphrenic abscess is practically the same as that of the pyothorax, that is, resection of a piece of rib. Only resection secures a sufficiently wide opening for thorough evacuation."

DR. ALEXANDER HUGH FERGUSON of Chicago, read a paper upon

THORASCOPLASTY IN AMERICA (SCHEDE'S) AND VISCERAL PLEURECTOMY, WITH REPORT OF CASES.

Thorascoplasty as first done by Schede is an heroic measure for the otherwise hopeless cases of chronic empyema, and consists of the removal of the chest wall. Dr. Ferguson described his method of operating, and stated that some cases are not cured in spite of any operation performed for their relief. In his opinion, the fact that amyloid degeneration and tuberculosis does not contraindicate this operation, as stated by Schede, is only true within certain limits. The author first performed Schede's operation in July, 1895, in which case a good result was obtained. Healing by first intention was secured, and the patient was able to be out in a very short time. In spite of careful treatment for five months after the operation, owing to the fact that a long central sinus had not closed, the operation of visceral pleurectomy was performed, which resulted in the patient's complete restoration to health. This operation has been performed by several men in America since it was first instituted in this country in October, 1893, by Dr. George R. Fowler of Brooklyn.

Dr. Ferguson's paper was well illustrated by excellent photographs and drawings.

DR. BAYARD HOLMES of Chicago, in discussing Dr. Ferguson's paper, said he had performed three operations of a similar nature, and two of the patients were now alive and well. There was no improvement in the third case, and the patient subsequently died of tuberculosis. The only adult on whom the speaker had operated, was a man, thirty-five years of age, who had been suffering with empyema which had been neglected for more than a year. In this case two attempts had been made to close the cavity by the Estlander operation before the operation described by Dr. Ferguson was performed. After the third operation the patient made a good recovery, although, it was necessary later to do two or three operations for the removal of infected bone, where the ribs had been infected from a discharge of pus.

DR. JAMES H. DUNN of Minneapolis, said he had been much interested in the past few years in the operation referred to by Dr. Ferguson, but that in his opinion most of the cases that have been operated on would have done equally well simply by the employment of proper drainage. "If, however, an operation is necessary, I believe the thorascoplastic operation is the best one to employ, but I think that this operation is much oftener performed than is necessary."

This has been the experience, as well of Dr. Dunn's colleagues, as of himself.

DR. FERGUSON closed the discussion by saying that Estlander's operation and also pleurectomy are grave ones, but Schede's operation is much graver. The photographs accompanying this paper show, in the author's opinion, how completely impossible it would have been for further nutrition to get to the surface of the pleura. In his opinion the order in which these various operations should be performed, was that the thorascoplastic should not be performed until Estlander's had failed, in view of the fact that many cases of this latter operation got well, and that pleurectomy should not be thought of until Schede's had been done.

Paper on

ENCHONDRITIS, ITS SURGICAL TREATMENT,

with report of a case and specimens, by B. MERRITT RICKETTS, M.D. of Cincinnati, O.

THE RATIONAL TREATMENT OF CARCINOMA OF THE CERVIX UTERI, AS VIEWED BY THE GENERAL SURGEON,

by GEORGE WILEY BROOME, M.D., St. Louis, Mo., and

POST-OPERATIVE INSANITY,

by R. HARVEY REED, M.D., of Columbus, O., were all read by titles.

DR. HOWARD KELLY of Baltimore, made some remarks concerning his method of treating

EXTRAUTERINE PREGNANCY.

He spoke of several causes for error in the diagnosis

and treatment of this affection and mentioned that he had mistaken for extrauterine pregnancies dermoid cysts, pelvic abscesses, and small ovarian cysts, all of which he evacuated through the vagina. In his opinion it is rarely necessary to open the abdomen for this purpose.

DR. NICHOLAS SENN of Chicago entirely agreed with Dr. Kelly.

DR. KELLY closed the discussion by advising operators to be careful of the rectum and to keep clear of the uterine arteries and the ureters.

## SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

### FIRST DAY—MAY 5TH.

The meeting was called to order by the chairman DR. JOSEPH TABER JOHNSON of Washington, D. C., who read an address upon the

### RECENT PROGRESS IN OBSTETRICS AND THE DISEASES OF WOMEN.

He first considered puerperal infection, its causation and treatment, saying that this form of infection had been the cause of much writing and discussion during the year. While something has been added to scientific knowledge of the history and behavior of certain pathogenic germs, the general course of treatment of these cases has been simplified and shortened. In the treatment, the best instrument is the index finger, with which portions of afterbirth or membranes can be removed, using, if necessary, bimanual pressure under ether.

As regards hysterectomy for puerperal infection, it seems to be gaining ground, notwithstanding the opposition of Lusk, Price, and a number of other prominent men in this country and abroad, though the cases, where it is indicated, seem to be very few.

Symphyseotomy, since its revival, has been gaining prominence as a substitute for difficult high forceps operation, craniotomy and Cæsarean section. In perfecting the technic of the operation, the aim has been to deliver the child without laceration of the parts about the urethra, and to so secure the separated symphysis that perfect union would result. In a number of cases, it has come to the knowledge of the writer that copious hemorrhages have taken place from laceration of the vascular tissues about the urethra,

The next subject considered was placenta prævia. Nothing new seems to have been added during the year, except the suggestion that hysterectomy be done for the control of the hemorrhage. The diagnosis is generally not made until the occurrence of the latter.

The surgical treatment for uterine displacements was then considered at considerable length, after which the author passed on to anterior colpotomy, vaginal versus abdominal operations, fibroid tumors, etc.

DR. HENRY P. NEWMAN of Chicago read a paper entitled

### A NOTE ON STENOSIS OF THE CERVIX AS A FACTOR IN UTERINE DISEASE.

He said that twenty years ago this subject was one of the topics of great interest among gynecologists. The literature abounded with learned and exhaustive treatises upon the pathology and treatment of the affection. Notwithstanding the amount of literature formerly written upon this subject, the hundreds of operations recorded by older gynecologists and the nicely adapted instruments that remain as evidences of the reality of stenosis of the uterine cervix, there are some modern authorities who deny the existence of this affection as an anatomical fact. Stenosis was defined as a narrowing of the caliber of the canal, and may be situated at the external os, the internal os, or may include the whole extent of the canal. This condition causes sterility and dysmenorrhea by offering a mechanical obstruction to the entrance of the fecundating element, and by preventing the free discharge of the menstrual fluid.

The author then considered the hygiene of puberty, saying that among the higher educational circles there is already a tendency to demand for girls the same physical advantages that are in vogue in our boy colleges. In our rapid transition from childhood to maturity, the activities demand full general nutrition and conservation of the entire physical constitution. But at this period, the growing woman is pushed to her utmost to support the intellectual and emotional faculties. When the first corset is put on, the growing body is constricted and deprived of the necessary freedom of respiration and circulation. In the radical changing of these conditions lies the rational basis of the treatment of cervical stenosis.

DR. SELLMAN of Baltimore, said many young women suffered month after month from painful menstruation, due to retained menstrual fluid. At the last meeting, he spoke of curetting these cases, believing that we accomplish very little by dilatation. He reams out the diseased membrane or dense fibrous tissue with reamers of different sizes, according to the individual case.

DR. STONE failed to see why Dr. Sellman's reamer was any better than a curette in skilful hands.

DR. HALL of Cincinnati, said if we expected to cure cases of dysmenorrhea by dilation of the cervix, or by the reaming out process referred to, making the canal larger, we would be mistaken in our results. He could see how curetting the necessary amount of cervical tissue to leave a large opening might possibly result in a worse condition than would follow dilatation of the cervix.

DR. I. S. STONE of Washington, D. C., read a paper entitled

### HOW TO REMOVE PUS TUBES WITHOUT RUPTURE.

He illustrated the method by exhibiting a diagram showing the application of clamps to uterine and ovarian vessels before enucleation from the anterior surface of the abscess wall. He summarized the application of this method as follows; It gives more space for careful enucleation. The larger blood supply is tied off before enucleation begins, and no severe hemorrhage can occur during or after the operation. Smaller silk or catgut can be employed, as no *en masse* ligatures are used. If rupture is avoided, there is no need of flushing or drainage. It facilitates enucleation by affording another point of cleavage, namely, from anterior surface of the pus sac. It facilitates exsection of the uterine cornua.

Dr. Stone exhibited a huge pyosalpinx, nearly nine

inches in circumference and fourteen inches in length, which he had recently removed after the manner described in his paper.

DR. W. G. MACDONALD of Albany, read a paper upon

THE PRESENT STATUS OF ECTOPIC PREGNANCY.—A SURGICAL DISEASE.

He said the surgery of ectopic pregnancy is mature rather than old. The pathology and principles of treatment are already established. Yet women are dying every day from ruptured ectopic pregnancy with no effort being made to rescue them, because the condition is not recognized during life. The reason lies principally in the fact that much of the literature has been controversial, abstract, and involved. Pathology and methods of treatment have obscured the most important general topics of clinical history and diagnosis. Favorable results are more desirable than fine pathological distinctions, or beautiful frozen sections. All that is needed to complete the chapter of ectopic pregnancy in the history of surgery, is a living appreciation of its importance by the general practitioner. Such a condition obtains in appendicitis is generally understood and establishes the practice. What is required is a primer on ectopic pregnancy, direct in pathology, clean in diagnosis, and definite in treatment. Such a compend may not be absolutely true in all its statements, probably will not be, but it states general truths, the basis of action. The more descriptive pathology is involved by the expression of opinion and of contentions, the less it is likely to create distinct conclusions. There is no symptom pathognomic of ectopic pregnancy at any period of its history.

Diagnosis only follows careful study of the clinical history, and painstaking physical examination. There are two general propositions which should be generally appreciated in the diagnosis of ectopic pregnancy. First: Any woman who, during her child-bearing period, presents herself with symptoms of disease of the organs of generation, of recent origin, either new or entirely different from those heretofore experienced, if associated with any of the early symptoms of pregnancy, demands at once a careful examination. Second: Abdominal pain, either continuous or intermittent (colic) is always an important symptom and requires the fullest investigation as soon as the complaint is made. Anodynes, without examination, are a too frequent source of death in abdominal diseases.

The treatment of ectopic pregnancy is surgical. Exceptions are to be decided by the consultant or operator. It is to be undertaken as soon as a diagnosis is established. Much sentiment has been wasted and many valuable lives sacrificed in order that a deformed or a paralytic child might arrive at a period where there was a little hope that it might live after delivery. Many cases are emergency surgery and require immediate operation.

All cases of rupture in the interstitial variety belong to this class. The first conditions to be met in operation is the immediate and complete control of hemorrhage. The other steps may be completed more deliberately. Here, as elsewhere, every effort is to be made to close the abdomen after the complete removal of the diseased gestation sac, ruptured Fallopian tube, blood and placenta. Ideal conditions seldom present themselves. A rational conservatism in the conservation of the patient's blood and the prevention of shock will often lead to the employment of expedients, such as suturing the gestation sac to the incision or the use of gauze tamponade, with secondary suture. Saline transfusion either direct or intermediate is more valuable than cardiac stimulants, in the treatment of shock with hemorrhage.

Complete tubal abortion, if diagnosticated, will seldom call for surgical intervention. The fetus is expelled into the abdomen, dies from the rupture of its membranes and hemorrhage, and is absorbed. Many broad ligament pregnancies get well under a purely expectant plan of treatment. There is no hope of convincing the few remaining advocates of electricity of their error, and admonition does no good. The report of seven personal cases illustrating the different conditions met in the disease concluded the paper.

DR. JOSEPH PRICE of Philadelphia followed with a paper entitled

SYMPTOMS, DIAGNOSIS, AND TIME FOR OPERATION IN RUPTURED TUBAL PREGNANCY.

The occurrence of tubal pregnancy is regarded in widely different light by the theorist and the surgeon who has learned to deal with it practically, and who has accordingly come to understand the manifold directions in which speedy disaster may swoop down upon unfortunate women subjected to this calamity. As to the causes of aberrant gestation, we are to consider them both as anatomical and moral. They may have their origin in anatomical loss of structure, or in perversion of function, such as absent ciliary motion in the epithelium, or in absolute disease of the tube, or in the fright of illegitimate conception. Causation can rarely be determined with certainty; there are many agencies which operate to produce the trouble. The character of the attack, the whereabouts of the patient, her employment, are always interesting considerations.

Ruptures with large effusions are easily recognized upon examination. The finger detects an ill-defined, boggy tumor, the uterus enlarged and posterior, or pushed well to one or the other side. If the rupture is quite recent, it may be difficult to define a tumor of any character; there is simply a feeling of general resistance. In examinations made one or two days after rupture, it is easy to define the irregular, boggy tumor, also to locate the uterus, determine its size, position, and mobility.

Dr. Price is convinced, fortified by his own experience, counting now 128 cases with five deaths, that the operative treatment is the only one to be considered. He is fully satisfied that these pregnancies are rarely in the broad ligament. He regards the chief danger of the operation, the hemorrhage. If the patient is found so weak as to render operation an almost certain failure, he resorts to salt water transfusion in order to restore the arterial tension. Rupture with fatal hemorrhage is the most frequent termination; pyemia, septicemia, and peritonitis are much rarer. Basing his conclusions upon his own clinical experience, he holds to tubal origin and intra-peritoneal

rupture, and that all that follows tubal rupture is within the pelvis and peritoneal cavity, and not within the leaflets of the peritoneum forming the broad ligament.

DR. EASTMAN of Indianapolis related a case where a physician tried to kill a fetus by electricity and failed. When the patient was *in extremis* she changed physicians. On opening the abdomen Dr. Eastman found a sac containing a living child in an advanced gangrenous condition, which he removed. He believes all extrauterine pregnancies are primarily tubal.

DR. REID of Cincinnati has seen cases in which the primary rupture has occurred in the broad ligaments with definite extension of the tumor inward and not upward, although its upper margins could be clearly outlined. The tumor became stationary and finally disappeared.

DR. BALDWIN of Columbus had eight cases of ectopic gestation within the last few months, which were operated upon early and recovered. The subject was further discussed by DRS. J. C. CARPENTER, M. B. WARD, and J. H. LETCHER.

## SECTION ON NEUROLOGY AND MEDICAL JURISPRUDENCE.

### FIRST DAY—MAY 5TH.

DR. T. D. CROTHERS of Hartford, Conn., the chairman of the section, presented the usual address. He commented upon the growing importance of neurology, and the legal relations and possibilities constantly growing out of present conditions, and spoke of the numerous publications on this subject during the past year. Literally, a new field of medicine is coming into prominence. Neurology is a general topic to be studied by both the specialists and the general practitioner. Dr. Crothers thought the great error in medical training to-day is, the the failure to teach how to observe accurately and how to estimate and compare the results of observation, and this applies particularly to neurology. Preventive medicine, the germ theories, the mysteries of chemical physiology, and all the vast range of "new lands" which are opening up before the student, are insignificant compared with the unknown power of mind, brain force, and what is called nerve energy. The present treatment of crime, insanity, and drug manias by legal methods, has not kept pace with the march of science, so that it is no wonder that expert testimony has fallen into disrepute. The time has come for every student of medicine to assist in clearing up the realm of mystery and superstition, relative to the mental phenomena of neurology. When neurology comes into general science, when jurisprudence becomes an exact study founded on certain definite facts, then the injustice and odium of the present will pass away. Dr. Crothers said that the one central fact which would never be forgotten is, that all nerve phenomena and brain activities are the operation and manifestation of fixed and definite laws.

DR. J. T. SEARCY of Tuscaloosa, Ala., read a paper entitled

#### INTOXICATION AND INSANITY.

He limited the meaning of the word intoxication to the injurious effects on the cerebrum of toxic agents present in the circulation, the symptom of intoxication being those that belong to the brain, this organ being exceeding sensitive to the action of certain agents. The exceedingly soft colloidal character of the functionating central parts of its nerve cells and fibers render them more sensitive to some agents. The nervous system may be divided into sensating and non-sensating structure. Sensibility in the human being is carried to such a degree of centralization that the cerebrum is practically the only sensorium. This physiological fact gives ready explanation to many of the symptoms of intoxication. The word "insanity" is more properly a popular or a legal term than a medical one, meaning that the person has reached such a degree of aberrant conduct that he has to be restrained. It indicates an extreme degree of cerebral defectiveness, there being other grades of impairment above the insane level. Cerebral intoxication arises in the person according to the character of the agent and the particular brain; that is, according to the toxin and according to the abnormality or idiosyncrasy of the particular brain. Toxins such as ptomaines, leucomaines, and other toxic albuminoids, arise from the disintegration of disease in the system besides which there are natural waste products which if retained prove highly toxic. Microbic disintegration of cerebral structure proper is not often seen. Diseases affecting the general system, like the exanthems, fill the circulation with toxins. Some brains being very sensitive under these conditions. Cerebral intoxication from disease in different organs of the body, varies with the organ. The effects of alcohol generally begins in the cerebrum. We may very correctly suppose that whenever we arrest or abate pain with a toxic we do it by hardening the axis cylinders of nerve lines, or the central parts of nerve cells, in this way preventing or lessening their functional motion.

DR. FREDERICK PETERSON of New York, thought the chief means of treating these cases, which arise from auto-intoxication, as by a properly regulated diet, milk, vegetables, and so on, by washing out the stomach and intestines with hot water, and by the use of certain antiseptics like salol, given in pretty good doses two hours after meals.

#### INEBRIETY IN THE ETIOLOGY OF INSANITY,

by DR. I. N. QUIMBY, Jersey City, N. J., was read by title.

DR. G. W. DRAKE of Chattanooga, Tenn., read an article entitled

#### MAN'S BRAIN AND MIND: THE FORMER SOMETIMES INSANE, THE LATTER NEVER.

He said a sane brain is one in which all its cells and cell derivatives—fibers and other material substances—are in a normal state chemically, physically, and vitally. Chemical analysis of the different parts of the brain is not alone sufficient to enable the neurologist to judge of its sanity, nor is microscopical examination adequate, because neither will reveal the relative position of molecules in a cell or atoms in a molecule. Man is a *triune* being, consisting of a material *ego*, a sensible *ego*, and an intellectual *ego*, body, spirit, and mind. Dr. Drake said he did not believe in the existence of mental diseases, or dis-

eases of the sensible *ego*, disease being rather a disarrangement of matter in the structure of one or more cells of the body. The sensible *ego* is always ready to exercise its faculties in the various brain centers, but it is necessary that the peripheral and central organs must be in health in order that the sensations may become conscious, normal impressions. There is a material basis for every pain and every subjective symptom of disease or discomfiture. Brain culture, as a physical science has not received proper attention. The cerebral centers should be duly exercised in order to enhance their capacity, and brain sanitation is conducive to sanity.

The mind is never insane. Its brain machine may break down and need adjusting, but the mind cannot be injured by traumatism, auto-intoxication, or bacterial toxins. There is no difference in the members of the human family, Hottentot, Mongolian, or European; as to their minds, the difference is only in the structure of their brains.

The chairman named DR. HAROLD N. MOYER and DR. ELMER S. PETTIJOHN to fill the vacancies on the executive committee.

A NOTE ON THE PATHO-MENTAL EFFECTS OF DEGENERATIVE HABIT

was read by DR. H. S. DRAYTON, New York City. He referred to Dr. Henry Maudsley's statement that a man is "By no means hopelessly chained down by the weight of his inheritance, for there is something else that makes fate and that is education."

Habits, however acquired, produce in time conditions in mind and body that of themselves reflect a healthful or injurious nature. If vicious habits are persisted in they accomplish alterations in the substance and relations of the cerebro-spinal organism that are abnormal and degenerate. The form and constitution of the brain bear a particular relation to mind capacity and character. Though habit has its co-ordinate factors in the cerebral substance where molecular changes are produced with facility and effects correspondent to the duration of the habit. Dr. Drayton referred to Dr. Elmer Gates' experiments on the color sense of dogs, proving that the forced exercise of that sense for a period had a result in decided increase of brain tissue in the color area.

Conversely, disease of mind faculty is attended with declension and disease of the cell elements of the co-ordinate center and decline in strength. The disturbances of function wrought by the practice of taking alcoholic beverages daily belong to our common stock of knowledge, and represent generally, or analogously, what of nerve injury is done by toxic narcotics as a class, depressing the vital tone of every organ of the body. The president of this section, after years of critical observation, has said: "The tendency in nature being toward the maintenance of the perfect type, we may look for an endowment of new normal tissue where all the conditions are favorable, and under such circumstances a cure, or what is popularly called 'reformation,' takes place."

DR. CHARLES H. HUGHES of St. Louis, Mo., opened the discussion on these papers. He thought it rather unnecessary to emphasize the essential difference between the brain and the mind, and considered it settled that the consideration of the latter was exclusively within the realm of metaphysics, as science deals only with matter.

DR. W. H. BURR continued the discussion, expressing his approbation of Dr. Searcy's paper and Dr. Hughes' remarks. He said that, in his opinion, in the majority of cases of hypochondriasis there is at the bottom a pathological condition, often a state of auto-intoxication.

DR. SANGER BROWN referred to the recent advances which have been made in the conception of the neuron, owing to the investigation of Dr. Berkeley of Johns Hopkins University, who experimented upon dogs, feeding them excessively with alcohol for seven or eight months, until many of them died of convulsions. Definite changes in the body of the neuron were found. Every safeguard was used to prevent the experiments from giving misleading results.

DR. SEARCY also referred to Dr. Berkeley's experiments at Johns Hopkins.

DR. KLEINSMITH of Washington, also discussed the papers.

DR. FREDERICK PETERSON of New York, presented an article on the

MEDICAL AND SURGICAL TREATMENT OF EPILEPSY.

He referred favorably to the so-called opium bromid treatment of Flechsig, having found it of use, especially in old and obstinate cases. In epilepsy, resulting from auto-intoxication, much benefit may be obtained by the regulation of the diet. Dr. Peterson spoke further of the moral treatment of epilepsy and the unfortunate position of the victims of this malady, reared in idleness, neglected in mind and body, their only recourse being almshouses and insane asylums. He mentioned the Craig Colony in New York, with accommodation for three hundred patients. The surgical treatment of epilepsy he summed up as follows:

(1) In about one per cent. of all cases of epilepsy an injury to the head will be found to be the original cause.

(2) In a much larger percentage, an old meningeal hemorrhage, congenital or acquired in infancy, giving rise in addition to the epilepsy, to various degrees of paralysis, idiocy, or other cerebral symptoms, and presenting on examination atrophic, sclerotic, or cystic sequelæ to the primary lesion, will be found to be the cause.

(3) In the present state of our knowledge and experience, those cases due to meningeal hemorrhage should not be operated on at all.

(4) In the very small number of cases having injury to the head as a cause, the epileptic habit is so strong and the changes in the brain usually so old and so deep-seated, that operation, as a rule, does not cure, and only seldom permanently diminishes the frequency of attacks.

(5) Of miscellaneous traumatic cases where surgical procedure seems justifiable and is undertaken, a cure may be reasonably expected in perhaps four out of every hundred cases operated upon.

(6) The removal of a cicatrix from the cortex supposed to be the epileptogenetic nidus will naturally be followed by the formation of a new cicatrix in the surgical wound, and is scarcely a defensible procedure.

(7) The most recent the injury the greater will be the promise of lasting benefit. If a hundred cases of epilepsy could be selected in which the trauma dates but a few months back, trephining and ablation of the morbid tissues would doubtless prove curative in a very large percentage of cases.

DR. CAMPBELL of Knoxville, Tenn., in discussing Dr. Peterson's paper, deplored the fact that there was no satisfactory arrangements for the State charge of epilepsy and urged the profession to make vigorous efforts to this direction in order that other States might follow the example of New York and make similar provision for the care and education of this class of patients.

DR. JOHN PUNTON of Kansas City, Mo., said that he was entirely in accord with Dr. Peterson's views as to surgical procedure in epilepsy and that the cases in which it was of advantage were very rare.

## SECTION ON CHILDREN'S DISEASES.

### FIRST DAY—MAY 5TH.

The section was called to order by DR. A. C. COTTON of Chicago, who read an address entitled

### HAS THE MILK LABORATORY COME TO STAY?

Dr. Cotton stated that in the selection of the subject upon which to address the Section he had been guided somewhat by the recent interest taken in the elaboration of infant food. There are three quite defined classes of infant feeders: (1) Those who regard the infant as belonging to the carnivora; (2) Those who would place the nursling of the human species among the granivora, and (3) Those who early place the young in the omnivorous class. Says one theorist, "Raw milk is poison"; another "Bottled milk is indigestible"; another "Starch is indigestible"; still another "Cereals are unnatural."

Again, "cows' milk, even if freed from pathogenic bacteria, is ill adapted to the stomach of the human infant because its constituents do not bear the same proportion to each other as in breast milk." So we attempt to render the proportions of the constituents the same as in the natural product of the maternal breast. Along this line the addition of lime water the use of dilution and of the separation and reunion in exact proportions of the constituents has been tried. Still the infants have continued to die. But I believe the milk laboratory has come to stay. The advantages lie in the direction of more exact manipulation, greater precision and accuracy in the keeping of records. We are securing through these laboratories in Chicago very gratifying results. In the milk laboratory the cerealists find the best facilities for testing the value of their theories. The experiments of Dr. Leeds, of Hoboken, have stimulated an effort to still further eliminate the casein without reducing the per cent. of proteid substance. It seems to have been successfully attempted by replacing a large part of the rejected cow proteid with egg albumen. At first it was thought that egg albumen would be coagulated when Pasteurization was attempted, but this difficulty has not proven insuperable.

DR. C. G. SLAGLE of Minneapolis, read a paper upon

### DIAGNOSIS IN DISEASE OF CHILDREN.

The author reviewed largely the subject of diagnosis in general since it is unsatisfactory otherwise to discuss diagnosis in this special department. The queries arise: First, What is the import and advantage of diagnosis? Wherein its intricacies, and what relation does it sustain to other branches of medicine? Second, What special feature does it possess in its relation to diseases of early life? Third, What is the present status of this department of our art as compared with the past? Fourth, Can it be facilitated or any way rendered more accessible and comprehensible to our students and young practitioners? Fifth, Is there a demand for a treatise on the diagnosis of the diseases of infants and childhood, general and special, medical and surgical? Many men never make good diagnosticians, and many good diagnosticians frequently make mistakes in diagnosis. His definition of a good diagnostician would be one with the faculty of recognizing diseases so as to locate and name them with facility by the correct interpretation of their pathological and clinical symptoms, and thus be able to differentiate one from all others. The man who can render a correct diagnosis at his first examination of the child in four-fifths of his cases, is a fairly good diagnostician. The practitioner will be successful in pediatrics precisely in proportion as he has given attention to all other parts of the art. But many ailments of children simulate each other so closely it is difficult, even impossible, to render a correct diagnosis. Many affections of the young differ from the same affections of the adult, in their clinical symptoms and sometimes in their anatomical aspect. And not only do diseases hybridize in the young, but there are many diseases peculiar to that period.

DR. J. A. LARRABEE of Louisville complimented the paper and spoke of the importance of the subject. Those who make instantaneous diagnoses often make very grievous errors. Although men may differ in their diagnostic capacity, as in other capacities, still "genius is only another name for hard work." We must use all our senses and all available knowledge, and even then we will sometimes fail to make a correct diagnosis. Often much may be accomplished by a careful study of the face of the child, which frequently is very expressive.

DR. SAMUEL E. WOODY of Louisville concurred with the essayist as to the many difficulties of diagnosis in children. These may be overcome only by the greatest amount of tact and patience. But diagnosis is not more difficult in children than in adults. The thinner chest and abdominal walls of the infant, as well as the expressiveness of the countenance, tend to make the diagnosis easier. In the employment of the Röntgen photograph, the thinness and translucency of the tissues in the child is an advantage.

DR. J. A. LARRABEE of Louisville followed with a paper upon the

### PEDIATRIC THERAPEUTICS, AS PROVEN BY EXPERIENCE.

The paper opened with the quotation: "Prove all

things; hold fast that which is good." Widely different effects may be obtained from the same drug in different doses. In children, the best are usually to be obtained from small doses, frequently repeated. In the discovery of new remedies, we have been more successful, reasoning by synthesis than by analysis. The author condemned the use of the polypharmic compounds, emphasizing the importance of the use of simple prescriptions. At any rate, the prescription should be the creation of the physician, and not of the pharmacist. The compound prepared by the manufacturing chemists too frequently contain elements which are directly opposed to each other in action, or elements which are not indicated in the same case, or elements which soon become non-effective. Too frequently they are simply shotgun prescriptions.

The author had obtained good results in entero-colitis by the use of 1–100 grain arsenite of copper in a four ounce solution, using a teaspoonful every fifteen minutes. One-fourth grain tartar emetic in a pint of water teaspoonful every half hour, controlled cerebral symptoms when the toxic dose would have increased discomfort. In acute tonsilitis, small frequently repeated doses of aconite and belladonna had proved valuable. Perhaps one of the most pernicious outgrowths of polypharmacy is the compounding of the therapeutic incompatabilities. The author gave a number of illustrations along this line. He believed the use of antiseptics good practice. Thus, the essayist had obtained good results with listerine and borolyptol in infants with lactic acid fermentation in the stomach as well as in children with putrefactive changes in intestinal ingesta, after removal of ingesta by enema and purgation. Guiacol has proven to be the ideal intestinal antiseptic. Indeed the author believes this agent is the effective one in the so-called Woodbridge treatment. However, in enteric diseases it is a better plan to prevent the complications than to trust to their treatment when they appear.

Dr. Larrabee described the coal-tar products, antipyretics, as indispensable agents in infantile therapeutics. The *antitoxin diphtheriticum*, while not a specific for diphtheria, is an agent of great value. Asafetida in the form of the tincture, combined with milk of magnesia is an excellent remedy for the distressing colic, intestinal acidity, and constipation. Also its administration by the mouth and discharge per anum is of diagnostic value in suspected obstruction or intussusception. Also it is valuable in the sinking stages of pneumonia or capillary bronchitis. Emetics have fallen into disuse while the use of the stomach tube has grown in favor. Non-depressing emetics are of great value in warding off atelectasis in infantile bronchitis and pertussis. Turpeth mineral has supplanted all other irritant emetics. Systemic or centric emetics are out of place in such instances. The syrup of ipecac should be discarded as slow and uncertain and ineffectual. Besides the syrup is objectional.

Hydrotherapy is endorsed by all physicians, but practised by only a few. This method of treatment is of very great value, and should be more frequently resorted to. The wet pack at 98½ degrees is preferable to immersion. Often the best results follow the long-continued use of the wet pack. In bronchitis and pneumonia, water is the only expectorant indicated. Belladonna is best given in small, even minute doses, repeated at frequent short intervals. It has thus proven a valuable remedy in the low stages of fevers, cholera infantum, and pernicious intermittents. As a stimulant to the respiratory nerve centers, it is useful in the sinking spells of pneumonia. A number of cases of enuresis have been reported cured by atropia.

DR. C. G. SLAGLE of Minneapolis, endorsed the paper, adding emphasis to everything the author said.

DR. HENRY E. TULEY of Louisville, thought the theory of the antitoxin is to neutralize the products of the germs, and it is our duty to get rid of the production of the germs, locally if possible. We are not justified in abandoning the use of the local treatment when we use the antitoxin. The use of the stomach tube is usually more effectual in infants than the use of emetics, when it is desired to empty the stomach.

DR. I. N. LOVE of St. Louis, discussed the paper at some length, agreeing with the author almost entirely. He especially emphasized the use of water in diseases of children.

## SECTION ON PRACTICE OF MEDICINE.

### FIRST DAY—MAY 5TH.

The meeting was called to order by the chairman DR. WM. E. QUINE of Chicago who read an address upon

### THE ADVANCES IN THERAPEUTICS DURING THE YEAR.

An epitome of the literature and some observations of the writer in relation to the therapeutic effects and *modus operandi* of bone marrow led him to the conclusion that the agent was of undoubted value in relation to the treatment of ordinary simple anemia and chlorosis and in cases of anemia of the more intractible kind. There is not conclusive proof that it has any therapeutic power beyond that which can be fairly ascribed to the influence of a readily assimilable organic compound of iron. We have no knowledge whatever that enables us to understand how it is possible for this agent to produce a curative effect in cases of progressive pernicious anemia, leukemia, and kindred disorders. It cannot act in the manner of an animal extract like that of the thyroid gland or suprarenal bodies which supplies a deficiency that is occasioned by incapacity of the organs alluded to, for in pernicious anemia and leukemia there is not atrophy nor inactivity of bone marrow. On the contrary this is hypertrophied and over-active. Moreover, evidence is wanting that bone marrow is a secretion or that it contains any ingredient which stimulates its own production. The subject is still *sub judice* and requires many careful observations to establish conclusions on solid grounds.

Fourteen cases of Addison's disease treated with the adrenals of lower animals, mostly those of sheep, are now on record. The favorite preparation appears to be a glycerite of the minced organs, given with a degree of freedom amounting to from fifteen grains to three drams of these organs daily. In about one-half of the recorded cases, improvement has been noted, and in a few of them the improvement has been very striking, but we are lack-

ing in information as to the stability of it. Quite as good evidence is furnished by medical literature that adrenal extract does injury in some cases of Addison's disease, as that it is productive of benefit in others. It is not difficult to understand in case of disease and incapacity of the supra-renal bodies, how the artificial supply of their peculiar products may make an important impression of a temporary kind; but it is not obvious how in case of advanced disease of those organs, the administration of sheep's adrenals for a few days or weeks, can make the patient so sound and well as to enable him to thrive ever after without the assistance of his own organs.

The treatment of typhoid fever was introduced by a presentation of the claims of Woodbridge of Ohio, and Thistle of London, in relation to their ability to abort the disease, or at least effect a cure of it, in every instance in which the treatment is permitted to have a fair trial. The improbability of the correctness of these claims was pointed out upon the basis of established knowledge of the etiology and morbid anatomy of the disorder; and it was shown that long before the physician has opportunity to prescribe his first dose the bacilli of the disease had already, to some extent at least, penetrated the walls of the bowel and migrated to remote parts of the body. It was freely conceded, however, that by processes of purgation and intestinal antisepsis meteorism could generally be obviated altogether, or if already present, dispelled. It was also conceded that under treatment of this kind, instituted early, the evacuations were never fetid; or if fetor already existed, it could, with considerable uniformity, be corrected in the course of a few days.

The writer also directed attention to the fact that the invasion of tissue and elaboration of toxins by the micro-organisms of typhoid fever were not completed in a day, but were continuous and occupied many days. Hence it was plainly within the limits of rational probability to lessen the degree of concentration of infection in the intestinal structures, and the consequent liability to the destruction of them, as well as the degree of general toxemia and its attendant dangers, by prompt and sustained effort in the direction of preventing or restraining the process of continuous recruital from the lumen of the bowel. The author was of the opinion that the plan of treatment has a rational foundation, and is of real utility, but suspected that his friend, Dr. Woodbridge, has been led to erroneous conclusions by reason of the extraordinary mildness of the typhoid fever which has been prevalent during the last two or three years. The address excited a very heated discussion, especially upon the treatment of typhoid fever, and very strong and extreme positions were taken by the speakers on each side of the question.

## GENERAL SESSION.

### SECOND DAY—MAY 6TH.

The Secretary read the names of the members of the Nominating Committee.

An invitation from the Louisiana State Medical Society was read, inviting the members of the association to attend the next meeting to be held in New Orleans.

A motion expressing appreciation prevailed.

Vice-President LEGRAND appointed the following committee to consider the recommendations in the president's address: Drs. N. Senn, Alonzo Garcelon, Jos. Taber Johnson, E. S. Lewis, and Dudley S. Reynolds.

On motion of Dr. Cochran of Alabama, the committee on National Department of Public Health was increased so as to include one member from each State.

## SECTION ON DISEASES OF CHILDREN.

### SECOND DAY—MAY 6TH.

The entire time of the meeting was consumed in a discussion of the antitoxin treatment of diphtheria.

DR. ELMER LEE of Chicago, read a paper in which he followed quite closely the statistics and arguments of Dr. Winters of New York in opposing the use of antitoxin. Horse-serum poisoned by germ culture has no natural place in the human blood.

The red blood-corpuscles are dissolved whenever horse-serum comes in contact with them. On the contrary, however, the fluid which patrols the entire body should be strengthened rather than decomposed and disorganized by the addition of morbid matter.

DR. J. W. STICKLER of Orange, N. J., concluded from his experience that when the heart's action is fairly good, when the system has not been seriously impaired, when the urine shows little or no albumin, antitoxin, judiciously used, is likely to benefit the patient, but when there is great depression of the vital forces antitoxin is contraindicated.

DR. LOUIS FISCHER of New York, emphasized some practical points in the combined effects of antitoxin and intubation, with special reference to infant feeding in malignant diphtheria. He explained the sudden deaths following injections of antitoxin as due to accidental entrance of air into the blood-vessels. He urged abundant and proper nutrition by stomach and by rectum.

PROFESSOR EDWIN KLEBS, late of Zurich, was present and brought forward in support of the antitoxin treatment the fact that control animals die, whereas protected animals injected with the same dose of the poison recover. He affirmed, however, that the immunizing power of the serum had not been demonstrated, but as to the curative influence of antitoxin the great mass of statistics agree that it is successful. He had found chinosol the best antiseptic to preserve the serum from the presence of other bacteria.

DR. W. E. CASSELLBERRY of Chicago, said that the use of antitoxin had reversed, his statistics and reduced a mortality of seventy-five per cent. to twenty-five per cent.

DR. J. A. LARRABEE of Louisville, considered the germ theory a germ fact. He had seen four cases die who he believed would not have died had they not used antitoxin, but he had also seen twelve cases survive that would have died without the antitoxin. He believed in vigorous sustaining treatment whether antitoxin was used or not.

DR. ROSE of Kansas had passed through an epidemic of diphtheria in which he and his partner had treated fifty cases with the antitoxin, and all recovered. In none of them had there been any irritation at the point

of injection; in only one did erythema occur. DR. THOMSON of Albion, Mich., DR. BELL of Atlanta, Ga., DR. HODGKINS of Connecticut, and DR. D. C. WILSON of Ohio, all gave favorable testimony from their experience confirming the value of the antitoxin treatment.

GENERAL SESSION.

THIRD DAY—MAY 7TH.

Meeting was called to order by the president. DR. NICHOLAS SENN of Chicago, delivered the

ADDRESS ON SURGERY,

For which see page 507.

It was decided to hold the next meeting in Philadelphia, and Dr. Nicholas Senn of Chicago, was unanimously elected president for the ensuing year.

## ASSOCIATION OF AMERICAN PHYSICIANS,

*Eleventh Annual Meeting, Washington, D. C., Thursday, April 30, 1896.*

(Specially Reported for THE MEDICAL NEWS.)

OPENING SESSION.

At 11 o'clock the meeting of "The Immortals" of our American profession was called to order by the President, A. JACOBI, M.D., who after the minutes of last year's meeting had been approved as printed, proceeded to deliver his brief but pointed and graceful address. (See pp. 511).

His keynote was "The Unity of Medicine as of the Church."

Notice was then given of the submission of an amendment to the constitution increasing the limit of membership to 125 instead of the present 100.

DR. BUSEY, of Washington then took the floor under the heading of special business, and in an earnest speech urged upon the Association the desirability of memorializing Congress against the passage of the pending bill practically prohibiting vivisection in the District of Columbia.

The greatest danger lay the indifference of the general medical profession and the foolishly weak letters written by individual medical men in favor of a modified form of of the bill. Huge memorials from sentimental men, women and clergymen, were pouring in from every quarter, and but little organized opposition is in evidence. A strong committee of five consisting of Drs. Welch, Vaughan, Pepper, Edes, and Theobald Smith was appointed by the chair to draft a memorial.

The formal program was opened by DR. F. H. WILLIAMS of Boston in a short paper upon

THE ROENTGEN RAYS IN PHYSICAL DIAGNOSIS.

He presented to the Association an ingeniously simple instrument, the fluoroscope, by means of which the chest could be examined with the X-rays.

By means of this the upper border of the liver can be made out as it rises and falls in respiration, also the outlines and fact of movement of the heart and outlines of the spleen, all of which corresponded to tracings of the organs mapped out upon the surface by percussion.

In three very interesting cases, one of pneumonia and two of pulmonary tuberculosis darker areas could be distinctly made out, in one at the left base and in two at the right apex, which corresponded in each case to the area of dulness.

In the neck, the anterior line of the spinal column can be seen, and the rings of the trachea, separated by a lighter streak, corresponding to the esophagus, which permits the hope that foreign bodies in the latter, could be thus located.

As a contribution to the discussion, Dr. Sternberg read a letter from Dr. J. H. Stone, U. S. A., of Leavenworth, Kan., describing a series of experiments with the X-rays upon cultures at various pathogenic bacteria, with absolutely negative results.

DR. WILLIAMS remarked that like trials had given identical results in his hands.

DR. OSLER asked whether gall-stones could be detected by the rays?

DR. B. K. RACHFORD of Cincinnati, followed with a paper upon

LEUCOMAIN POISONING (CONTINUED),

which will appear in the NEWS.

DR. VAUGHAN asked what tests were relied upon for the detection of xanthin and paraxanthin, and if observations had been made as to whether leucocytosis was increased in these cases? The nuclei of leucocytes being now regarded as the chief source of such bodies.

DR. OSLER congratulated Dr. Rachford and also the association upon the careful study which was being made of these interesting substances in this country, as they were attracting much attention in Europe. He also asked whether the presence of Neisser's granules about the nucleus of the white corpuscles had been studied in these cases. These are found so invariably present in the various uric acid states and true gout as to be now regarded as almost pathognomonic of these conditions.

Other suggestions were made by DRS. BAUMGARTEN, PUTNAM, MELTZER, and DA COSTA.

In closing the discussion, DR. Rachford replied to Dr. Vaughan that the chemical tests relied upon were those given in the text-book of the latter, known as the "yellow residue" and "green scum" tests, but that the physiological test by injection into animals ranked highest. Both, however, corresponded in all of his cases.

In reply to Dr. Putnam's question, he stated that urinary examinations in the interval between the attacks gave no trace of xanthin, nor was it ever present in ordinary epilepsy.

DRS. V. C. VAUGHAN and GEO. D. PERKINS at Ann Arbor, Mich., then presented a communication upon

A TOXICOGENIC GERM FOUND IN ICE CREAM AND ITS PRODUCTS.

In August, 1895, they were furnished with some ice cream which had poisoned some fifty people in Northern Michigan and about a month later with some cheese which had produced severe nausea, diarrhea, and prostration in twelve persons. Upon examination the same bacillus was found present in both specimens. The symptoms pro-

duced in both cases were almost identical and in neither did any deaths result. The germ was thoroughly studied and the results given in detail. Most interesting among which were the facts that its growth in milk was accompanied by a *pleasant* odor of butyric ether; that it grows freely upon all fruits and vegetables, potassium salts are necessary for its growth, it resists prolonged freezing but succumbs to a heat at 58° C.

It does not produce any effect upon cats when given by the mouth in enormous doses, though rapidly fatal when injected. Experiments were conducted upon rats, mice, guinea-pigs, and dogs.

They were not successful in isolating the chemical toxic produced at the bacillus, but believe it to be nearly identical with tyrotoxicon and probably a proteid.

By some mistake a strong solution of the toxin was put into a bottle labeled "Nuclein Sol.," and ten minims of it injected into a human subject. Severe vomiting, with profound depression, followed by delirium and coma, rapidly ensued, but the symptoms happily passed off in about twelve hours. It was, however, nearly three days before the patient had recovered sufficiently to walk alone. The singular fact being that this dose produces no appreciable effect upon a guinea-pig, showing the human subject to be vastly more susceptible to this poison.

A spirited discussion followed.

### AFTERNOON SESSION.

DR. SIMON FLEXNER of Baltimore, read the next paper upon

### STATISTICAL AND EXPERIMENTAL STUDY OF TERMINAL INFECTIONS.

He asserted that the careful and systematic bacteriologic study of the tissues from the *post-mortem* room was of more importance than mere clinical observations. Bacteria were often found when least expected, and even negative results were not conclusive against their possible presence in other unexplored tissues. In 793 autopsies at Johns Hopkins Hospital, 255 were chronic cases of kidney or heart disease, and in 213 of these bacilli were found in appreciable numbers. Local infections, especially of peritoneum and pericardium, were most common. The organisms were of many species, the pyogenic cocci largely predominating, followed closely by the colon group. Cultures from them proved generally inert in animals on inoculation.

The avenues of infection were various but the most frequent were intestinal lesions. Chronic diseases are important as predisposing factors to bacterial invasion and in most of them death is actually caused by some so-called "terminal infection."

In other words these pestilent organisms will not permit us to even poison or soak ourselves to death, à lá Bright, in peace. Pathogenic bacilli are often present in health but can gain no foothold till the resisting power at the tissues is lowered by disease.

A series of experiments was reported upon the bactericidal power of blood-serum from cases of chronic disease in Johns Hopkins Hospital, compared with that of healthy subjects obtained at surgical clinics. The staphylococcus pyogenes aureus was rapidly destroyed by normal serum, also the cholera and typhoid bacilli, while the serum of cachectic patients was much less active. This bactericidal power of normal serum, though always marked, was extremely variable and a similar property was usually found in the serum of animals exempt from given diseases. Normal serum also destroys the toxins, as well as the bacteria.

DR. STERNBERG quoted experiments showing that placental blood was almost inert against bacteria, and suggested that antitoxins could not pass through capillary coats, and hence might be retained in the blood for long periods. This would explain the long after-immunity in some diseases; in others it is probably due to constant reproduction of antitoxins.

DR. BOND asked whether the number and condition of the corpuscles in the blood used had been observed.

DR. THEOBALD SMITH stated that recent experiments by inoculating animals with weak cultures of bacilli, waiting till some time after their recovery and then killing and examining tissues, had revealed the continued presence of bacteria in the organism as long as fifty days after recovery.

DR. BOLTON expressed surprise at Dr. Sternberg's statement in regard to placental blood, as Ehrlich had proved the transference of immunity from mother to offspring in a number of cases of tetanus, etc.

DR. STERNBERG regarded the immunity in these cases as due to the ingestion of the mother's milk.

DR. BOLTON replied that the same results had been obtained when the offspring were suckled by a non-immunized foster-mother. Both the offspring of an immunized mother reared on non-immunized milk, and the offspring of non-immunized mothers reared upon immunized milk, were alike refractory to infection.

DR. FLEXNER, in closing the discussion, replied that the corpuscles had not been studied, that Dr. Sternberg's statement puzzled him, as placental blood was found antitoxic in eighty-five per cent. of diphtheria cases, and that the tissues of guinea-pigs recovered from typhoid were found by him to contain well-marked typhoid bacilli several months afterward, which supports Lubarsch's findings that bacteria can resist destruction in solid tissues far longer than in the blood.

This was one of the most suggestive and interesting papers of the entire session.

DR. A. C. ABBOTT of Philadelphia, followed with a report of experiments upon

### THE INFLUENCE OF ACUTE ALCOHOLISM ON THE NORMAL RESISTANCE OF RABBITS TO VARIOUS FORMS OF INFECTION.

These had been carried on under the auspices of the "Committee of Fifty" upon the "Influence of Alcoholic Liquors as Beverages."

The general drift of the results showed that alcoholic intoxication distinctly lowered the resistance to certain forms of bacteria, but not to others. The former included the whole strepto- and staphylo- group and the bacillus coli. The experiments were also made upon control groups of non-alcoholized rabbits simultaneously. The

practical difficulties of the investigation were found very great. In the first place, rabbits, being highly susceptible to these infections, it was hard to obtain a culture sufficiently attenuated to permit differences to be observed other than *post-mortem* ones, and yet of sufficient virulence to be active in every case. On the other hand, it was difficult to fix upon a "standard" dose of alcohol, which could be relied upon to produce intoxication, individual susceptibilities varying so greatly, as among men, and no satisfactory physical sign of intoxication could be found except that of a staggering gait, which was naturally hard to produce in a quadruped of such abstemious habits and conservative tendencies.

In order to reach this result such massive doses had to be given, as to be the equivalent of twelve to fourteen ounces of absolute alcohol in the human subject, and these were followed by such large and rapid losses of body-weight, as to raise the question in Dr. Abbott's mind, whether they did not lower resisting power, much as starvation would have done. Lastly, no combination, not even with mint, could be invented which would induce the animals to take the drug voluntarily. It had to be administered by a stomach tube, and this, in many cases, sooner or later caused abrasions of the esophagus and stomach, through which secondary infections developed with fatal results. The experiments up to date were reported in some detail, but the writer declared the investigation but partialiy completed, and that no definite conclusions could yet be drawn. This much could be said with certainty that the normal vital resistance of the tissues against invasion by the streptococcus pyogenes, staphylococcus aureus, and bacillus communis coli, was distinctly and invariably lowered by such doses of alcohol daily. The time of incubation of the virus was shortened and the lesions more marked. The result appeared to be due to the direct effect of the alcohol upon the tissues, as no change, whatever, in them could be detected upon careful microscopic examination.

DR. MELTZER asked whether injecting the alcohol hypodermically or by the rectum had been tried, and thought that the amount of water and green foods in the stomach might cause variations in the result.

DR. ABBOTT replied that neither of these methods had been tried, as the attempt was to reproduce the conditions of the human problem as closely as possible.

DR. H. C. ERNST of Boston followed with a paper upon

THE IDENTITY OF THE STREPTOCOCCI AND A DESCRIPTION OF A NEW VARIETY.

The position was taken that the action of all varieties of streptococci in the human organism was practically the same, due probably to their all producing a similar toxin and that there was hope that a single antitoxin might be developed which would be effective against all of them.

The new variety now introduced to the profession had been obtained from the blood and peritoneal fluid of a case of secondary puerperal infection. The symptoms were characteristic but very severe and death occurred in convulsions upon the thirteenth day. The bacillus presented the usual "strepto" characteristics and reactions, but with certain distinct peculiarities which entitled it to the rank of Streptococcus Aureus Liquefacillus, which had accordingly been conferred upon it.

It was found only feebly virulent in guinea-pigs and rabbits. The paper was illustrated by water-color drawings of cultures.

DR. STERNBERG remarked that there could be no question as to its admission to the strepto group with the rank of a variety, and DRS. ABBOTT and BOLTON also expressed themselves convinced and welcomed it to the ranks of the pyogenic brotherhood.

DR. THEOBALD SMITH of Boston, then read a report of a carefully planned series of ingenious experiments upon

THE CONDITIONS INFLUENCING THE APPEARANCE OF TOXIN IN CULTURES OF THE BACILLUS OF DIPHTHERIA.

The principal factor appeared to be the amount of muscle-sugar present in the culture bouillon which acted mainly by promoting acidity or delaying the development of alkalinity in the solution. His experiments confirmed those of Sprague that the higher the proportion of muscle-sugar, the less the amount of toxin developed. This was illustrated by a series of charts showing "curves" of both substances. Anything above 0.2 per cent. of muscle-dextrose practically inhibited toxin formation, and this proportion varied greatly in the beef of different localities. The sugar acts also by delaying the formation of the toxin to such degree that it can be consumed by the bacilli as fast as formed. In mixed cultures the toxin forms more rapidly because the sugar is destroyed by the other germs.

DR. ERNST and DR. BOLTON asked some questions as to methods of preparing beef for bouillon.

DR. BOLTON'S two papers upon

DIPHTHERIA ANTITOXIN,

though brief and partial, were of great suggestive interest. The first was upon the presence of antitoxin in the blood of normal horses. Attention was first called in this direction by the fact that individual horses varied greatly in the degree of their reaction to diphtheria inoculations. Some animals appeared almost immune from the start. Upon investigation, he had found that out of twelve horses tested three possessed antitoxin in appreciable amounts. These showed very little reaction to the virus until very large doses were injected, but ultimately produced no stronger or larger amounts of artificial antitoxin than the others. Traces of antitoxic substances had also been found in the blood of human subjects, especially in children, and most markedly in convalescents from diphtheria. It soon disappeared, however, from the serum of the latter.

DR. FLEXNER said that these experiments confirmed Fischerl's results, who found traces of antitoxin in the blood in eighty-five per cent. of children examined. The same had been found in goats against cholera.

DR. SMITH added that some horses never produce antitoxin beyond a certain strength, no matter how long the inoculations were kept up.

THE PRESIDENT asked whether age had any effect, as the blood of the newly born had been found to be more actively germicidal than that of adults, being quite effective in some eighty per cent. of all cases.

In the second paper DRS. BOLTON and PEASE described the production of

ANTITOXIN BY ELECTROLYSIS.

The results of their trials were quite uniform—and a summary only was given. A weak current (44–72 milliamperes) was passed for twenty hours through a solution of diphtheria toxin, with such effect that ten times the minimum fatal dose of this solution could be injected into guinea-pigs without serious effect. The curious fact was discovered that the antitoxin was formed only at the positive pole, although the toxin was destroyed at the negative. A thoroughly efficient and active antitoxin can thus be produced, although the reader stated in reply to questions from Drs. Sternberg and Smith, that it was doubtful whether it could be used for practical purposes, as the solution was too dilute, and hence the dose too bulky. D'Arsonval had just reported an antitoxin produced by high currents which was said to be much more powerful. There was a curious difference between the two currents, the constant simply destroying the toxin by electrolysis, while the intermittent, in the same solution, would produce an abundance of antitoxin.

The next paper was read by DR. A. C. ABBOTT upon

THE SIGNIFICANCE OF PATHOGENIC SPIRILLA IN AMERICAN SURFACE WATERS.

Very soon after the description by Koch of his celebrated Spirillum Choleræ Asiaticæ, it was discovered that in the surface waters of Hamburg and other places in Western Europe, were many varieties of similar spirilla, some of which were hard to distinguish from that of Koch. In many of these places, cholera either had recently occurred or shortly afterward developed.

With a view to throwing light upon this coincidence, a series of examinations had been made of the water of the Schuylkill River, with the result of discovering a spirillum which possesses all the morphological and cultural characteristics of the suspicious European group. Though Pfeiffer has demonstrated differences between these various groups, yet there is much to be said for their identity, and all seem alike capable of undergoing choleroid change. The "Spirillum Schuylkilli" possesses septicemic properties resembling those of the fibrio Metchnikoff.

A brief discussion as to methods used, followed.

The next paper,

THE TREATMENT OF ANTHRAX IN RABBITS BY INTRAVENOUS INJECTIONS OF NUCLEINIC ACID,

By DRS. V. C. VAUGHAN, CHAS. G. MCCLINTOCK, and GEO. D. PERKINS of Ann Arbor, was not read, but a short statement of its contents submitted by Dr. Vaughan. The acid was prepared from brewers' yeast and injected into the jugular vein of a large number of rabbits who had been inoculated with anthrax from five to twenty-four hours previously. Roughly speaking, eighty per cent. of those injected with a ten per cent. solution of nuclein, sixty per cent. of those injected with a weaker solution, and twenty per cent. of those not treated at all, survived the anthrax. The dose of anthrax virus used was a weak one. All the other control animals died in from 30 to 120 hours. A few questions were asked as to details at the experiments by Drs. Smith, Bolton, and Meltzer.

The contribution upon

ABSCESS OF THE SPINAL CORD,

by DR. M. A. STARR of New York, was read by title.

FRIDAY—MAY 1ST.

One of the most original and suggestive papers of the entire session was read by DR. THEOBALD SMITH of Boston upon

TWO VARIETIES OF TUBERCLE BACILLUS FROM MAMMALS.

The belief has been steadily growing of late that there are well-marked varieties in all specific forms of bacilli, and that connecting links will be found between even such apparently specifically distinct forms as the avian tubercle bacilli and the mammalian. A differential study of the varieties of the human species is still needed.

One of the two varieties reported upon was a typical bovine bacillus taken from the cervical glands of a bull. It was found difficult to infect guinea-pigs with this, although a heifer inoculated died rapidly of acute tuberculosis. There was a great difference in the resisting powers of various other animals experimented upon to this form. The other variety was taken from the tissues of a bear and was probably a modified human bacillus, as the animal had been the household pet of a tuberculous patient now dead. The two germs were strikingly distinct and easily recognizable apart not only in cultures but under the microscope.

The author was of the opinion that the bovine tubercle baccillus is of a distinctly different variety from the human. The bovine disease shows corresponding differences in the formation of "pearls" or round, "grape-like" fibroid masses, in the lungs, peritoneum and pericardium, in the non-appearance of the bacilli in the nasal and bronchial secretions, and fluids of the body generally, and in the fact that the lower lobes of the lung are most commonly first affected, instead of the apices. The human bacillus is highly specialized to human tissues, and difficult of inoculation in other forms. Finally, he thought, that the occurrence of infection of the human subject through the milk of cattle, was decidedly questionable, and that a careful investigation was urgently needed to determine the question whether tubercle bacilli ought not to be divided into a number of distinct races, each one specially adapted to the tissues of some species or group of animals and difficult of inoculation upon any other.

DR. VAUGHAN complimented the paper most highly, and said that as far back as in 1888, he had urged the necessity of studying the physiology as well as the morphology of germs. He was sure that tubercle and other bacilli were markedly modified by their environment and hoped that some day an attenuated form could be

produced which would be available for vaccination purposes.

DR. PEPPER expressed his belief that virulence was largely a question of soil, and that this factor might cause the widest range in the morbid activity of any single bacillus.

DR. STERNBERG had long been contending that virulence was no test whatever of specificity. He had suggested, in Koch's laboratory, years ago, that hospital gangrene might be due to some saprophyte which had acquired virulent properties, and supported his view by citing numerous sporadic outbreaks in field hospitals during the late war, but his theory was then simply hooted. He asked what had been the effect of inoculations of the human bacillus upon cattle.

DR. ABBOTT thought that our only rational method of classifying bacteria was in groups instead of in species. For instance, we were beginning to find great variations in the form and habits of the diphtheria bacillus. The strict specific lines of former days could no longer be drawn. An almost perfect series could now be constructed from the mild pseudo form up to the most virulent variety, each link producing a proportionate pathogenic reaction, varying from a mild local to a severe or fatal general infection.

DR. SMITH, in closing the discussion, spoke of the early prejudice which had existed against "varieties" and intermediate forms. In reply to Dr. Sternberg's question he said that numerous experiments in the Government Bureau of Animal Industry had shown that the human bacillus had no effect whatever upon cattle, not even producing a local infection or tubercle at the point of inoculation and that the two bacilli differed strongly both morphologically and physiologically.

## NEW INVENTION.

### *A RAPID METHOD OF AFFIXING PARAFFIN SECTIONS ON THE SLIDE.*

BY S. H. CHAMPLIN, M.D.,
RESIDENT PHYSICIAN COOK COUNTY HOSPITAL, CHICAGO, ILL.

IN teaching and working with a large class of medical students I hit upon the following method for rapidly affixing sections on the slide: A small drop of the Mayer's albumen mixture is placed in the middle of a slide and the section, from the microtome knife, laid on this drop. The drop forms a cushion and partially flattens the section. A piece of thin, smooth writing paper is then coated with albolene (liquid vaselin), and the oily side laid directly down on the section. With the ball of the thumb or finger firm pressure is made on the paper over the section; upon removing the paper the section will be found perfectly flat and firmly adherent to the slide. The slide is gently heated over a flame until the paraffin melts, and then it is placed in a jar of benzine or xylol to dissolve off the paraffin, when, after treatment with 95 per cent. alcohol, it is ready to be stained in any way desired. The albumen is forced away from the immediate neighborhood of the section by the combined action of the pressure and melting of the paraffin. The pressure should be made *directly down* on the section, and may be exerted to any degree without injury to the most delicate section, if the thumb is not allowed to slip or twist. Care must be taken not to *rub* the paper as it lies upon the section, for in this way the section is often made to stick to the paper.

It will be seen that this method is very rapid as well as very simple; its results are all that can be desired in routine work, and it can be very readily grasped by the laboratory student.

## OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM APRIL 1, 1896, TO APRIL 13, 1896.

Captain Adrian S. Polhemus, assistant surgeon, will be relieved from duty at Fort Douglas, Utah, upon the expiration of his present sick leave of absence and ordered to Fort Wingate, N. M., for duty.

Captain Philip G. Wales, assistant surgeon, now on duty at Fort McPherson, Ga., will report in person to the commanding officer Fort Monroe, Va., for temporary duty at that post.

Captain Francis J. Ives, assistant surgeon, is relieved from duty at Plattsburgh Barracks, N. Y., and ordered to St. Francis Barracks, Fla., for duty at that station, relieving Major Daniel G. Caldwell, surgeon.

By direction of the president, Major Daniel G. Caldwell, surgeon, on being relieved from duty at St. Francis Barracks, Fla., will report in person to the president of the Army Retiring Board at Washington Barracks, D. C., for examination by the board.

Sick leave of absence for one month and five days is granted Captain Nathan S. Jarvis, assistant surgeon, Willets Point, N. Y.

First Lieutenant George J. Newgarden, assistant surgeon, will be relieved from duty at Fort Wayne, Mich., and ordered to Fort Yates, N. Dak., for duty at that post.

Captain Benjamin Munday, assistant surgeon, is relieved from duty at Fort Niobrara, Neb., to take effect upon the expiration of his present sick leave, and ordered to Fort Wayne, Mich., for duty at that post.

Leave of absence for four months, to take effect on or about May 1, 1896, is granted Captain Paul Shillock, assistant surgeon, Madison Barracks, N. Y.

Leave of absence for one month, to take effect on or about April 20, 1896, is hereby granted to Captain Ashton B. Heyl, assistant surgeon U. S. Army, Fort Thomas, Ky.

## OFFICIAL LIST OF THE CHANGES OF STATION AND DUTIES OF MEDICAL OFFICERS OF THE U. S. MARINE HOSPITAL SERVICE FOR THE FIFTEEN DAYS ENDED MARCH 31, 1896.

BAILHACHE, P. H., surgeon, granted leave of absence for three days, March 30, 1896.

BANKS, C. E., P. A. surgeon, to proceed to Baltimore, Md., to inspect unserviceable property, then to rejoin station at Washington, D. C., March 30, 1896.

PECKHAM, C. T., P. A. surgeon, granted leave of absence for thirty days, March 26, 1896.

WILLIAMS, L. L., P. A. surgeon, granted leave of absence for fifteen days, March 26, 1896.

COBB, J. O., P. A. surgeon, granted leave of absence for two days, March 25, 1896.

STONER, J. B., P. A. surgeon, to proceed from Baltimore, Md., to Savannah, Ga., and assume command of service, March 16, 1896.

PROCHAZKA, EMIL, assistant surgeon, to proceed from Detroit, Mich., to Evansville, Ind., for temporary duty, then to rejoin station at Detroit, March 19, 1896.